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Requirements for Interim Registration of Pesticide Products Containing Aldicarb as the Active Ingredient

(U.S.) Environmental Protection Agency
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REQUIREMENTS FOR INTERIM REGISTRATION OF PESTICIDE PRODUCTS CONTAINING ALDICARB AS THE ACTIVE INGREDIENT

ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDE PROGRAMS

WASHINGTON, D.C. 20460

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TABLE OF CONTENTS

Introduction 1

I. Regulatory Position. 4

II. Requirement for Submission of Generic Data 23

III. Requirement for Submission of Product-Specific Data 32

IV. Submission of Revised Labeling and Packaging Information. 35

A. Label Contents 35

- 1. Product Name . . . .
- 2. Company Name and Address . . . .
- 3. Net Contents . . . .
- 4. Product Registration Number. . . . .
- 5. Producing Establishment Registration Number. . . . .
- 6A Ingredient Statement . . . .
- 6B Pounds Per Gallon Statement. . . . .
- 7. Front Panel Precautionary Statements . . . .
- 7A Child Hazard Warning Statements. . . . .
- 7B Signal Word. . . . .
- 7C Skull and Crossbones and Word Poison . . . .
- 7D Statement of Practical Treatment . . . .
- 7E Referral Statement . . . .
- 8. Side/Back Panel Precautionary Labeling . . . . . .
- 8A Hazard to Humans and Domestic Animals. . . . . . .
- 8B Environmental Hazard . . . .
- 8C Physical or Chemical Hazard. . . . .
- 9 Misuse Statement . . . .
- 10A Storage and Disposal Block . . . .
- 10B Directions for Use . . . .

B. Collateral Information 39

V. Instructions for Submission. 40

APPENDICES

II-1	Bibliography
II-2	FIFRA §3(c)(2)(B) Summary Sheet - EPA Form 8580-1
II-3	Certification of Attempt to Enter Into an Agreement With Other Registrants for Development of Data EPA Form 8580-6
III-1	Product Specific Data Report (End-Use Products) EPA Form 8580-4
IV-1	40 CFR §162.10 Labeling Requirements
IV-2	Table of Labeling Requirements and Sample Labels
IV-3	Physical/Chemical Hazards Labeling Statement
IV-5	Storage and Disposal Statements

Note: Appendices IV-4 and IV-6 are not germane to this document and are not included.

INTRODUCTION

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA Section 3(g), as amended in 1978, directs EPA to reregister all pesticides as expeditiously as possible. Each registrant of a manufacturing use product of the active ingredient who wishes to continue to sell or distribute that product must apply for reregistration.

To fulfill this Congressional mandate, we have established the Registration Standards program which will review all pesticide active ingredients first registered before January 1, 1977. These pesticides will be reviewed in use clusters which are prioritized on the basis of a ranking scheme giving preference to pesticides used on food and feed crops.

The Registration Standards program involves a thorough review of the scientific data base underlying pesticide registrations and an identification of essential but missing studies which may not have been required when the product was initially registered or studies that are now considered insufficient. Our reassessment results in the development of a regulatory position, contained in this document, on each pesticide and its uses. The regulatory position may require the registrant to modify product labels to provide additional precautionary statements, restrict the use of the pesticide to certified applicators, provide reentry intervals, modify uses or formulation types, specify certain packaging limitations, or other requirements designed to assure that proper use of the pesticide poses no potential adverse effects to human health or the environment.

The scientific review, which is not contained herein but is available upon request, concentrates on the technical grade of the active ingredient and identifies missing generic data. However, during the review of these data we are also looking for potential hazards that may be associated with the formulated (end-use) products that contain the active ingredient. If we find serious concerns, we will bring formulated products under the provisions of the Registration Standards program to the extent necessary to protect the public.

EPA has the authority under FIFRA §3(c)(2)(B) to require that certain registrants submit generic data that will answer our questions regarding the hazard that may result from the intended use of the pesticide under review. Further, §3(c)(2)(B) provides that these data are to be submitted by those registrants who do not qualify for the formulator's exemption [FIFRA §3(c)(2)(D)]. Normally, this means that the registrants who are responsible for filling the data gaps are the manufacturing-use product producers (basic suppliers of the active ingredient). However, end-use producers will not qualify for the formulator's exemption if the source of their active ingredient: (1) is not registered with EPA, and/or (2) is produced by the registrant's firm, or a firm which has ownership in common with the registrant's firm. These end-use producers can qualify for the formulator's exemption if they change their source of supply to a registered source, provided the source does not share ownership in common with the registrant's firm. If the end-use product registrant decides to switch sources, a new Confidential Statement of Formula, EPA Form 8570-4, must be submitted to the appropriate Product Manager within 90 days of receipt of this Guidance Document. The chart on the following page shows what is generally required of those who do and do not qualify for the formulator's exemption in the Registration Standards program.

If you decide to request the Agency to discontinue the registration of any of your products subject to the requirements of this document, please notify the Product Manager named in the cover letter, within 90 days from the receipt of this document, that you wish to voluntarily cancel the registration(s). If you decide to maintain your product registration(s), you must provide the information described in the following pages within the timeframes outlined. EPA will issue a notice of intent to cancel or suspend the registration of any currently registered product if you fail to comply with the requirements set forth in this document.

Registrants are reminded that §6(a)(2) of FIFRA requires you at any time to submit factual information raising concerns of possible unreasonable adverse effects of a pesticide. You should notify the Agency of interim results of studies in progress if those results show possible unreasonable adverse effects.

PRODUCTS SUBJECT TO THE REGISTRATION STANDARDS PROGRAM	ACTION(S) REQUIRED TO MAINTAIN REGISTRATION
I. Products That Do Not Qualify For The Formulator's Exemption	
A. Single Active Ingredient Products*	To continue registration, labeling, packaging and data requirements must be satisfied in accordance with this document.
B. Multiple Active Ingredient Products	Generic data required to continue the registration of the active ingredient under review, as described in this document will be required and some labeling precautions may also be required.
II. Products That Do Qualify For The Formulator's Exemption	Only when additional restrictions or labeling are needed to protect man or the environment will these products be subject to the requirements of this document. Affected products will be dealt with in a variety of ways, including but not limited to the Label Improvement Program and special intent to cancel notices.

* End-use products of registrants who also produce a manufacturing-use product must registrant fulfill the requirements specified in this document for manufacturing-use product(s). Such end-use products will be subject to the labeling changes required for products in "II" above.

NOTE: If all registrants in "I" above fail to meet the requirements in I-A and B above, then the registrants in "II" lose their right to qualify for the formulator's exemption and become subject to the requirements in I-A and B.

I. REGULATORY POSITION

A. Introduction

This guidance document describes the Agency's current regulatory position regarding continued registration of manufacturing use products (MPs) and end-use products (EPs) containing the insecticide, acaricide and nematicide aldicarb. The Agency's position is based on an evaluation of all registered uses and registered products with aldicarb as the sole active ingredient. This document considers known chemical and toxicological properties of this chemical, as well as established tolerances for residues in food and feed commodities. From these considerations the Agency sets forth the data and labeling requirements that must be met by registrants and applicants of aldicarb products in order for the products to be registered. These are interim requirements pending the outcome of the Special Review process for this chemical, which is being initiated by the Agency and will be conducted pursuant to 40 CFR 162.11. To be registrable under this document, MPs and EPs must list aldicarb as the sole active ingredient. However, products containing aldicarb will not be reregistered until the problem of ground water contamination, as discussed below, has been resolved. The tables accompanying this document list the data gaps which must be satisfied through submission of additional information.

B. Description of Chemical and Use Profile

Aldicarb - $C_7H_{14}N_2O_2S$; mol. wt. 190.3

C.A.S. # 116-06-3, Shaughnessy # 098301

Aldicarb is the accepted common name for 2-methyl-2-(methylthio) propionaldehyde 0-(methylcarbamoyl)oxime. Other names include the trade name Temik® and UC-21149.

Technical aldicarb is a white crystalline solid. It has a melting point of 98-100° C (pure material). Under normal conditions, aldicarb is a heat-sensitive, inherently unstable chemical and must be stabilized to obtain a practical shelf-life.

Aldicarb is a carbamate pesticide which causes cholinesterase inhibition at very low dosage levels. Its chief metabolites aldicarb sulfoxide and aldicarb sulfone are also potent cholinesterase inhibitors.

This insecticide, acaricide and nematicide is manufactured and registered in the United States solely by Union Carbide Corporation.

There are no federally registered MPs containing aldicarb. However, there are three federally registered EPs which contain aldicarb as the sole active ingredient. There is also one federally registered EP containing aldicarb in a mixture with the fungicides pentachloronitrobenzene and 5-ethoxy-3-(trichloromethyl) 1,2,4-thiadiazole. Aldicarb is a soil incorporated pesticide commercially formulated into a 5 percent(%) granular formulation, 10% granular formulations and a 15% granular formulation. Registered uses include beans (dried), cotton, grapefruit, lemons, limes, oranges, peanuts, pecans, potatoes, sorghum, soybeans, sugar beets, sugarcane, sweet potatoes, and ornamental plants. In addition to the federal registrations, there are twelve (12) intra-state registrations and sixty six (66) Special Local Need registrations for aldicarb.

C. Regulatory Position

Based on the review and evaluation of all available data and other relevant information on aldicarb, the Agency has made the following determinations:

1. Aldicarb is highly toxic by the oral, dermal and inhalation routes of exposure. Neither aldicarb or its metabolites have been demonstrated to be neurotoxic, oncogenic, teratogenic or mutagenic in valid data reviewed to date.

2. Union Carbide has voluntarily restricted the use of aldicarb products to certified applicators or people under their direct supervision in part to reduce to potential for further ground water contamination. Also, based on its high acute toxicity via the oral, dermal and inhalation routes of exposure, the Agency has determined that all aldicarb products must bear the "Restricted Use Pesticide" statement on the product label.

3. Aldicarb leaches through soil and has been found in ground water. The wide natural variability in soil types, weather patterns and aquifer characteristics make it impossible to specify a precise set of circumstances under which aldicarb will not reach ground water. In an effort to reduce further ground water contamination stringent label/use restrictions are being imposed by this guidance document. Also, an expedited Special Review of the aldicarb ground water contamination problem is being initiated under Section 162.11

(a)(6)(i) of Title 40 Code of Federal Regulations to determine whether aldicarb products could be labeled in any way that would both permit continued use and preclude ground water contamination at unacceptable levels and determine what such levels might be.

4. Although the Agency is unable to complete a full tolerance reassessment because of certain residue chemistry data gaps, the Agency concludes that changes in the present tolerances for aldicarb are not warranted at this time. The additional residue data being required under this document may necessitate a revision of specific tolerances in the future.

5. In the absence of adequate soil dissipation data and dermal exposure data, the Agency is imposing an interim 24-hour reentry interval for aldicarb.

6. MPs and EPs containing aldicarb as the sole active ingredient may be registered for sale, distribution, and use under the conditions set forth in the document pending the outcome of the Special Review Process.

7. Registrants must provide or agree to develop additional data, as specified in the tables in this guidance document, to maintain existing registrations or to obtain new registrations of substantially similar products.

D. Regulatory Rationale

The Agency has reviewed the available data concerning toxicology, environmental, residue and product chemistry, and ecological effects. Sufficient data are available to show that aldicarb has a high acute toxicity via the oral, inhalation and dermal routes of exposure and has been assigned to Toxicity Category I. The toxicology data base for aldicarb is nearly complete; however, additional mutagenicity tests are being required by this guidance document. Neither aldicarb nor its metabolites have been shown to be neurotoxic, oncogenic, teratogenic, or mutagenic in studies that have been reviewed to date.

Several data gaps have been identified in the areas of product chemistry and residue chemistry. These data gaps require the submission of additional information on the manufacturing process, chemical analysis, certification of upper limits of impurities, as well as large animal metabolism data and residue analyses of various food and feed commodities.

In 1979, aldicarb residues were found in drinking water wells located near aldicarb treated potato fields in Suffolk County, Long Island, New York at levels <200 parts per billion (ppb). The Agency's Office of Drinking Water subsequently established a Health Advisory Level (HAL) of 10 ppb for residues of aldicarb iin drinking water. Aldicarb residues have since been found in drinking water wells at levels above 10 ppb in other states including Wisconsin, Florida, Maine, Connecticut, Delaware, Maryland, New Jersey, Rhode Island, Virginia and California.

As a result of the ground water contamination, Union Carbide Corporation voluntarily imposed use restrictions on their aldicarb products intended to reduce further ground water contamination. First, aldicarb has been restricted from use in Suffolk County, Long Island, New York. Secondly, the use on potatoes has been limited to one application every other year and only after plant emergence in the counties of of Hartford in Connecticut, Kent and New Castle in Delaware, Franklin and Hampshire in Massachusetts, Worchester in Maryland, Atlantic, Burlington, Cumberland, Monmouth and Salem in New Jersey, Newport and Washington in Rhode Island and Accomack and Northampton in Virginia. Third, users are advised to apply aldicarb selectively and to avoid use in well drained soils, particularly in areas having shallow and unconfined aquifers. Fourth, the sale and use of all aldicarb products have been voluntarily restricted to certified applicators or people under their direct supervision.

While the Agency has voluminous ground water monitoring data and some descriptive environmental fate data on aldicarb, this information is not sufficient to fully assess the environmental fate of aldicarb. However, from these data and other information it has been determined that aldicarb and its sulfoxide and sulfone metabolites may leach in areas of fine to coarse textured soils, including those soils with a high organic matter content. Additional data on soil metabolism, soil and aquatic dissipation, leaching and volatility are being required to fully assess the environmental fate and transport of aldicarb and its metabolites.

Based on the current and the additional use restrictions imposed by this guidance document, the Agency believes that the potential for further ground water contamination will be reduced. However, because of the ground water contamination problem an expedited Special Review is being initiated by the Agency to determine whether aldicarb products could be practically labeled to permit the continued use of the products, preclude further ground water contamination at unacceptable levels and determine what such levels might be.

The available data indicate that aldicarb is highly toxic to mammals, birds, estuarine/marine organisms and freshwater organisms. However, limited exposure is expected to mammals from a dietary standpoint. Data from field studies and the use history of aldicarb provide sufficient information to suggest that application of this pesticide may result in some mortality, if not local population reductions, in certain avian species. Whether these effects are excessive, long lasting, or likely to diminish wildlife resources cannot be stated with any degree of certainty. Therefore, additional field studies are needed which further quantify the impact on avian and small mammal populations.

The Pesticide Incident Monitoring System (PIMS) reports on aldicarb from 1966 through 1982, contained 165 incidents associated with human injury, 6 incidents involving animals, 6 incidences involving environmental contamination and 6 incidences involving non-target plants and crops. Most of the human incidents alleged that aldicarb was the cause of the poisoning, but there was insufficient evidence to support that conclusion. Those incidents involving confirmed aldicarb poisonings resulted from failure to use label recommended safety equipment while applying aldicarb.

Other incidents resulted from accidental spillage, ingestion of aldicarb, or the consumption of food commodities improperly treated with aldicarb.

In summary, the Agency has concluded that it can continue the registration, but not reregister this chemical at this time for the following reasons:

1. Adequate data are available to assess the acute oral, inhalation and dermal toxicological effects of this chemical on humans.

2. The review of the available data and other information on ground water contamination raises concerns of possible unreasonable adverse effects to man. The Special Review will investigate the practicality of labeling/use restrictions that would permit aldicarb's continued use while preventing ground water contamination at unacceptable levels of either aldicarb or its metabolites. Among other things, the Special Review will attempt to determine what such levels might be.

3. In accordance with the FIFRA, the Agency's policy is not to cancel or to withhold registration merely for the lack of certain data (See sections 3(c)(2)(B) and 3(c)(7) of FIFRA). Rather, publication of this document provides a mechanism for identifying data needs, and registration under this document allows for upgrading of labels during the

period in which the required data are being generated. When these data are received, they will be reviewed by the Agency. The Agency will then determine whether these data will affect the registration of this chemical.

E. Criteria for Products Subject to the Document

This guidance document covers all manufacturing use and end use products that contain aldicarb as the sole active ingredient. Registrants and applicants for registration of such products must comply with all terms and conditions described herein. This includes making a commitment to fill data gaps on a schedule specified by the Agency. Also, registrants and applicants for registration must follow the instructions contained in the document and complete and submit the appropriate forms within the specified timeframe.

F. Acceptable Ranges and Limits

1. Product Composition Standards

To be fully covered under this document, MPs and EPs must contain aldicarb as the sole active ingredient. Each product formulation proposed for registration must be fully described with appropriate certification of limits.

2. Acute Toxicity Limits

The Agency will consider for registration any MPs and EPs provided the product is supported by acute toxicity data and the labeling for the product bears appropriate precautionary statements.

3. Use Patterns

To be registered under this document, end-use products containing aldicarb must be labeled for use on the following agricultural and ornamental commodities. MPs must be labeled to allow for formulation into EPs which are intended for use on EPA accepted uses. The attached index entry lists all registered uses, as well as approved maximum application rates and frequencies.

Terrestrial Food Use

beans (dried), cotton, grapefruit, lemons, limes, oranges, peanuts, pecans, potatoes, sorghum, soybeans, sugar beets, sugarcane and sweet potatoes

Terrestrial Non-Food Use

birch, dahlias, holly, lilies (bulbs), roses and turf

Commericial Greenhouses

carnation, chrysanthemum, easter lilies, gerbera, orchids, poinsettia, roses and snapdragons

G. Required Labeling

All MPs and EPs containing aldicarb must bear appropriate labeling as specified in 40 CFR 162.10, in addition to the following specific labeling requirements.

1. Labeling Requirements for All Aldicarb Products

The following precautions must be included in the Hazards to Humans section the the product label:

"Poisonous if swallowed. May be fatal or harmful by skin or eye contact or by breathing dust. Causes cholinesterase inhibition. Warning symptoms of poisoning include weakness, headache, sweating, nausea, vomiting, diarrhea, tightness in chest, blurred vision, pinpoint eye pupils, abnormal flow of saliva, abdominal cramps, and unconsciousness. Atropine sulfate is antidotal.

In case of skin contact, wash skin immediately with soap and water. Remove contaminated clothing and wash before reuse. In case of swallowing, drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger or blunt object. Do not induce vomiting or give anything by mouth to an unconscious person."

2. Label Requirements for Manufacturing-Use Products

Use Pattern Statement

For formulation into end-use products intended only for uses accepted by the United States Environmental Protection Agency.

Environmental Hazard Statements

This product is toxic to fish and wildlife. Do not discharge into lakes, streams, ponds or public water except in accordance with a NPDES permit. For guidance contact the nearest EPA Regional Office.

3. Labeling Requirements for End-Use Products

a. The following "Restricted Use Statement" must appear on the product label.

RESTRICTED USE PESTICIDE

For retail sale to and use only by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

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b. The product label must state the following:

"Do not apply in Suffolk County, Long Island, New York, and Del Norte County, California at any time."

"Do not plant any crop other than those with registered aldicarb uses in aldicarb treated soil."

"This product is usually decomposed into harmless residues. However, a combination of sandy and acidic soil conditions, moderate to heavy irrigation and/or rainfall, use of 3 or more pounds active ingredient per acre, and soil temperature below 50°F at the time of application, tend to reduce degradation and promote movement of residues to ground water. If this describes your local use conditions and ground water in your area is used for drinking, do not use this product without first contacting (company name)."

"Do not apply more than 5 lbs. active ingredient per acre in the state of Florida."

"Application to citrus fruits in the state of Florida may be made between January 1 and April 30 only."

c. Under the potato use directions:

"Do not apply to any field in the state of Maine or Wisconsin or the counties of Hartford, CT, Kent and New Castle, DE, Franklin and New Hampshire, MA, Worchester, MD, Atlantic, Burlington, Cumberland, Monmouth and Salem, NJ, Newport and Washington, RI and Accomack and Northampton, VA more than once every two years and only after plant emergence."

d. Required Clothing

Wear long-sleeved clothing and protective gloves when handling. Wash hands and face before eating or smoking. Bathe at the end of the work day. Change clothing daily and wash before reuse.

e. Environmental Hazard Statements

Do not plant any crop other than those with registered aldicarb uses in aldicarb treated soil.

This product has been found in ground water. This product is toxic to fish, birds and other wildlife. Birds feeding on treated areas may be killed. Cover or incorporate granules in spill areas. Runoff from treated areas may be hazardous to fish in neighboring areas. Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of waste.

NOTICE: Under the Endangered Species Act, it is a Federal Offense to use any pesticide in a manner that results in the death of a member of an endangered species. This act protects Attwater's Greater Prairie Chicken in the Texas counties of Aransas, Austin, Brazoria, Colorado, Galveston, Goliad, Harris, Refugio and Victoria. Prior to making applications in these counties, the user must determine that this species is not located in or immediately adjacent to the area to be treated. If the user is in doubt whether or not the above named endangered species may be affected, he should contact either the regional U.S. Fish and Wildlife Service Office (Endangered Species Specialist) or personnel of the State, Fish and Game Office.

H. Tolerance Reassessment

Tolerances have been established for aldicarb and its sulfoxide and sulfone metabolites on a number of different food and feed crops. A wide array of toxicology studies have been used in support of these tolerances. These data include a 2-year rat feeding/oncogenicity study with a no-observed effect level (NOEL) (other than cholinesterase inhibition) of 0.3 milligrams (mg)/kilogram (kg) of body weight (bw)/day and was negative for oncogenic effects at the level tested (0.3 mg/kg bw/day); a 2-year rat oncogenicity study which was negative for oncogenic effects at the levels tested (0.1 and 0.3 mg/kg bw/day); a 100-day dog feeding study and a 2-year dog feeding study with NOELs (other than cholinesterase inhibition) of 0.7 and 0.1 mg/kg bw/day, respectively (highest levels tested (HLT)); an 18-month mouse feeding/oncogenicity study with a NOEL of 0.7 mg/kg bw/day (HLT) and was negative for oncogenic effects at the levels tested (0.1, 0.3 and 0.7 mg/kg bw/day); a 2-year mouse oncogenicity study which was negative for oncogenic effects at the levels tested (0.3 and 0.9 mg/kg bw/day); a 6-month rat feeding study using aldicarb sulfoxide with a NOEL for cholinesterase inhibition of 0.125 mg/kg bw/day; a 3-generation rat reproduction study with a 0.7 mg/kg bw/day NOEL; a rat teratology study which was negative for teratogenic effects at 1.0 mg/kg bw/day (HLT); a rabbit teratology study which was negative for teratogenic effects at 0.5 mg/kg bw/day (HLT); and a hen neurotoxicity study which was negative at up to 4.5 mg/kg bw/day.

The Acceptable Daily Intake (ADI) for aldicarb and its cholinesterase inhibiting metabolites has undergone extensive critical review within the last few years. In 1982, the World Health Organization (WHO) re-evaluated the ADI for aldicarb and recommended a value in the range of 0 - 0.005 mg/kg/day. A report issued by the Institute for Comparative and Environmental Toxicology at Cornell University in 1983, suggested "a reasonable range for the ADI to be 0.003 to 0.01 mg/kg, the Office of Pesticide Programs (OPP's) currently accepted value of 0.003 mg/kg being the most conservative and the upper value of 0.01 mg/kg being a dose that causes a depression of whole blood cholinesterase approximating the range of normal intra-individual variation".

In 1983, the Assistant Administrator for EPA formed an Aldicarb Review Committee to evaluate the available toxicity data for aldicarb and determine the appropriate ADI. A formal report is not available at this time; however, one of the suggestions of the committee was the use of an "intermediate uncertainty factor". Such safety factors were previously discussed by the EPA in the Consent Decree Water Criteria Documents (U.S. EPA 1980, FR 45 No. 231, November 28, 1980, pg. 79347). The use of the suggested 32-fold "intermediate uncertainty factor" would result in an ADI approximating 0.0038 mg/kg/day, if adopted. Further, the National Academy of Sciences is re-evaluating aldicarb this year (1984) in conjunction with their developmemnt of Drinking Water and Health Criteria documents.

Considerable effort has been expended by EPA, along with national and international committees, to evaluate the toxicity of aldicarb and its relationship to an Acceptable Daily Intake. The collective recommendations are supportive of the (OPP's) present ADI for aldicarb. Therefore, OPP considers it prudent, at this time, not to alter its established ADI of 0.003 mg/kg/day.

Based on the established tolerances for aldicarb and it cholinesterase inhibiting metabolites in 40 CFR 180.269, the current theoretical maximum residue contribution (TMRC) for aldicarb and its metabolites is 0.1120 mg/day for a 1.5 kg diet, which utilizes 62.14 percent of the ADI.

Further, the Agency's Office of Drinking Water has established a Health Advisory Level (HAL) of 10 parts per billion (ppb) for residues of aldicarb in drinking water. However, since the HAL is derived from the ADI and the ADI may undergo changes in the future, the HAL may be revised. Such a change would likely be an increase in the HAL.

U.S. Tolerances

Crop	Maximum Residue Limit (PPM)
Bananas	0.3
Beans (dried)	0.1
Beets, sugar	0.05
Beets, sugar, tops	1.0
Cattle, fat	0.01
Cattle, meat by-products (mbyp)	0.01
Cattle, meat	0.01
Coffee beans	0.1
Cottonseed	0.1
Goats, fat	0.01
Goats, mbyp	0.01
Goats, meat	0.01
Grapefruits	0.3
Hogs, fat	0.01
Hogs, mbyp	0.01
Hogs, meat	0.01
Horses, fat	0.01
Horses, mbyp	0.01
Horses, meat	0.01
Lemons	0.3
Limes	0.3
Milk	0.002
Oranges	0.3
Peanuts	0.05
Peanut, hulls	0.5
Pecans	0.5
Potatoes	1.0
Sheep, fat	0.01
Sheep, mbyp	0.01
Sheep, meat	0.01
Sorghum, fodder	0.5
Sorghum, grain	0.2
Soybeans	0.02

U.S. Tolerances (cont.)

Crop	Maximum Residue Limit (PPM)
Sugarcane	0.02
Sugarcane, fodder	0.1
Sugarcane, forage	0.1
Sweet potatoes	0.1

International Tolerances

The following tolerances for residues of aldicarb and its cholinesterase inhibiting metabolites have been established:

Canada:	1.0 ppm potatoes
	0.1 ppm sugarbeets
Mexico*:	0.02 ppm soybeans, sugarcane and sweet potatoes
	0.05 ppm peanuts and sorghum
	0.1 ppm dried beans, coffee and cottonseed
	0.5 ppm pecans and sorghum fodder
	0.6 ppm citrus fruits

The latest _Codex Alimentarius_ entry and tolerances for aldicarb and its cholinesterase inhibiting metabolites are:

Crop	Maximum Residue Limit (Mg/Kg)
Bananas	0.5
Beans, dried	0.1

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*Mexico tolerances are established for residues of aldicarb _per se_.

Codex Alimentarius Entry and Tolerances (cont.)

Crop	Maximum Residue Limit (Mg/Kg)
Citrus fruits	0.2
Coffee	0.1
Cottonseed	0.1
Cottonseed, hulls	0.3
Meat	0.01
Peanuts	0.05
Peanut, hulls	0.5
Pecans	0.5
Potatoes	0.1
Soybeans	0.02
Sugar beets	0.05
Sugar beet, tops	1.0
Sweet potatoes	0.1

II. REQUIREMENT FOR SUBMISSION OF GENERIC DATA

A. This portion of the document is a Notice issued under the authority of FIFRA Section 3(c)(2)(B) and describes, in table format, the data required for maintaining the registrability of each product. Additionally, a bibliography (Appendix II-1) is included that identifies that data considered as part of the data base supporting this standard. EPA has determined that additional generic data described in this Notice must be submitted to EPA for evaluation in order to maintain in effect the registration(s) of your product(s) identified as an attachment to the cover letter accompanying this document. As required by FIFRA Section 3(c)(2)(B), you are required to take appropriate steps to comply with this Notice.

EPA may suspend the registration of each of those products unless, within the specified time, you have informed EPA how you will satisfy the requirements of this Notice. Any such suspension will remain in effect until you have complied with the terms of this Notice.

B. What Generic Data [1] Must Be Submitted. You may ascertain which generic data you must submit by consulting Table A at the end of this chapter. That table shows all the generic data needed to evaluate the continued registrability of all products, and the dates by which the data must be submitted. The required data must be submitted and any necessary studies must be conducted in accordance with EPA-approved protocols, the Pesticide Registration Guidelines [2], or data collected under the approved protocols of the Organization for Economic Cooperation and Development (OECD). If you wish not to develop data which are necessary to support the registration or reregistration of certain uses appearing in your labeling, you may delete those uses at the time you submit your revised labeling.

Also for certain kinds of testing (generally ecological effects), EPA requires the test substance to be a "typical formulation," and in those cases EPA needs data of that type for each major formulation category (e.g., emulsifiable concentrates, wettable powders, granulars, etc.) These are classified as generic data and when needed are specified in Table A. EPA may possess data on certain "typical formulations" but not others. Note: The "typical formulation" data should not be confused with product-specific data (Table B) which are required on each formulation. Product-specific data are further explained in Chapter IV of this document.

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[1] Generic data pertain to the properties or effects of a particular ingredient, and thus are relevant to an evaluation of the risks of all products containing that ingredient (or all such products having a certain use pattern), regardless of any such product's unique composition or use. Product-specific data relate only to the properties or effects of a product with a particular composition (or a group of products with closely similar composition).

[2] The Pesticide Registration Guidelines were reproposed on November 24, 1982 in 47 Federal Register 53192.

C. Options Available for Complying With Requirements to Submit Data

Within 90 days of your receipt of this Notice you must submit to EPA a completed copy of the form entitled "FIFRA Section 3(c)(2)(B) Summary Sheet" [EPA Form 8580-1, Appendix II-2] for each of your products. On that form you must state which of the following methods you will use to comply with the requirements of this Notice:

1. (a) Notify EPA that you will submit the data, and

   (b) either submit the existing data you believe will satisfy the requirement, or state that you will generate the data by conducting testing. If the test procedures you will use deviate from (or are not specified in) the Registration Guidelines or protocols contained in the Reports of Expert Groups to the Chemicals Group, Organization for Economic Cooperation and Development (OECD) Chemicals Testing Programme, you must enclose the protocols you will use.

2. Notify EPA that you have entered into an agreement with one or more other registrants to jointly develop (or share in the cost of developing) the data. If you elect this option, you must notify EPA which registrant(s) are parties to the agreement.

3. File with EPA a completed "Certification of Attempt to Enter Into an Agreement With Other Registrants for Development of Data" (EPA Form 8580-6, Appendix II-3)*/

4. Request that EPA amend your registration by deleting the uses for which the data are needed. (This option is not available to applicants for new products.)

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*/ FIFRA Section 3(c)(2)(B) authorizes joint development of data by two or more registrants, and provides a mechanism by which parties can obtain an arbitrator's decision if they agree to jointly develop data but fail to agree on all the terms of the agreement. The statute does not compel any registrant to agree to develop data jointly.
(Footnote continued at bottom of next page)

5. Request voluntary cancellation of the registration(s) of your products for which the data are needed. (This option is not available to applicants for new products.)

D. Procedures for Requesting Changes in Testing Methodology and Extensions of Time

EPA recognizes that you may disagree with our conclusions regarding the appropriate ways to develop the required data or how quickly the data must be submitted. If the test procedures you plan to use deviate from (or are not specified in) the registration guidelines or protocols contained in the reports of the Expert Groups to the Chemical Groups, Organization for Economic Cooperation and Development (OECD) Chemicals Testing Programme, you must submit the protocol for Agency review prior to the initiation of the test.

If you think that you will need more time to generate the required data than is allowed by EPA's schedule, you may submit a request for an extension of time. The extension request must be submitted in writing to the Product Manager. The extension request should state the reasons why you conclude that an extension is appropriate. While EPA considers your request, you must strive to meet the deadline for submitting the required data.

(Footnote continued from previous page)

In EPA's opinion, joint data development by all registrants who are subject to the requirements to submit a pertinent item of data or a cost-sharing agreement among all such registrants is clearly in the public interest. Duplication of testing could increase costs, tie up testing facilities, and subject an unnecessarily large number of animals to testing.

As noted earlier, EPA has discretion not to suspend the registration of a product when a registrant fails to submit data required under FIFRA Section 3(c)(2)(B). EPA has concluded that it is appropriate to exercise its discretion not to suspend in ways which will discourage duplicative testing. Accordingly, if (1) a registrant has informed us of his intent to develop and submit data required by this Notice; and (2) a second registrant informs EPA that it has made a bona fide offer to the first registrant to share in the expenses of the testing [on terms to be agreed upon or determined by arbitration under FIFRA Section 3(c)(2)(B)(iii)]; and (3) the first registrant has declined to agree to enter into a cost-sharing agreement, EPA will not suspend the second firm's registration. While the first firm is not required to agree to jointly develop data, EPA is not required to force the second firm to engage in economically inefficient duplicative testing in order to maintain its registration.

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?2/
§158.120 Product Chemistry				
Product Identity:				
61-1 - Identity of Ingredients	TGAI	Yes	GS0140090*	No
61-2 - Statement of Composition	TGAI	Partially	GS0140090*	Yes3/
61-3 - Discussion of Formation of Ingredients	TGAI	No	-	Yes
Analysis and Certification of Product Ingredients				
62-1 - Preliminary Analysis	TGAI	No	-	Yes
62-2 - Certification of Limits	TGAI	No	-	Yes
62-3 - Analytical Methods for Enforcement of Limits	TGAI		GS0140085*	No
Physical and Chemical Characteristics				
63-2 - Color	TGAI	Yes	GS0140090*	No
63-3 - Physical State	TGAI	Yes	GS0140090*	No
63-4 - Odor	TGAI	Yes	GS0140090*	No
63-5 - Melting Point	TGAI	Yes	GS0140090*	No
63-6 - Boiling Point	TGAI	N/A	-	No
63-7 - Density, Bulk Density, or Specific Gravity	TGAI	Yes	GS0140090*	No

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)? 2/
§158.120 Product Chemistry (continued)				
63- 8 - Solubility	TGAI OR PAI	Partially	GS0140090*	Yes 4/
63- 9 - Vapor Pressure	PAI	Yes	GS0140090*	No
63-10 - Dissociation constant	PAI	No	-	Yes
63-11 - Octanol/water partition coefficient	PAI	No	-	Yes
63-12 - pH	TGAI	No	-	Yes
63-13 - Stability	TGAI	Yes	GS0140088*, GS0140091*	No
Other Requirements:				
64- 1 - Submittal of samples	Choice	N/A	-	No

1/ Composition: TGAI = Technical grade of the active ingredient; PAI = Pure active ingredient; Choice = Choice of several test substances determined on a case-by-case basis.
2/ Data must be submitted no later than OCT 1984.
3/ The manufacturing process is needed, including the purity of the starting materials, intermediates and a description of the reaction conditions, any purification steps and quality control measures.
4/ Solubility data expressed in terms of g/100 ml of solvent at 20° C (68° F) or in terms such as ppm (mg/kg) are needed.

* Data submitted by Union Carbide. These data may be compensable.

TABLE A
GENERIC DATA REQUIREMENTS FOR CHEMICAL ALDICARB

Data Requirements	Composition 1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No, or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)? 2/
§158.125 Residue Chemistry				
171-4 - Nature of Residue (Metabolism)				
- Plants	PAIRA	Yes	GS0140001*, GS0140002* GS0140003*, GS0140004 GS0140005, GS0140006 GS0140007, GS0140008 GS0140009, GS0140010 GS0140011, GS0140012 GS0140013*, GS0140014* GS0140015*	No
- Livestock	PAIRA and plant metabolites	Partially	00053373*, 00010933 00053371, GS0140019 00102023, 00101967*	Yes 3/
171-4 - Residue Analytical Method			GS0140022, GS0140023 GS0140024, GS0140025* GS0140026*, GS0140027* GS0140028*, GS0140029* GS0140030*, GS0140031* GS0140032*, GS0140033* GS0140034*, GS0140035* GS0140036*, GS0140037* GS0140038*, GS0140039 GS0140040	No
- Plant residues	TGAI and metabolites	Yes		
- Animal residues	TGAI and metabolites	Yes		

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirements	Composition 1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No, or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2/]
§158.125 Residue Chemistry (continued)				
171-4 - Storage Stability Data	PAI	Partially	GS0140041, GS0140042 GS0140043, GS0140044 GS0140045*, GS0140046* GS0140047*, GS0140048* GS0140049*, GS0140050* GS0140051*, GS0140052* GS0140053*, GS0140054* GS0140055*, GS0140056* GS0140057*, GS0140058* GS0140059*	Yes[4/]
171-4 - Magnitude of the Residue-Residue Studies for Each Food Use				
- Root and Tuber-Vegetable Group				
o Potatoes				
-- Crop field trials	TEP	Yes	GS0140060, GS0140061 GS0140081*	No
-- Processed Food/Feed				
potato chips	EP	Yes	GS0140060, GS0140061 GS0140081*	No
potato, dried	EP	No	-	Yes[5/]
potato granules	EP	No	-	Yes[5/]

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No, or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2]
§158.125 Residue Chemistry				
174-4 - Magnitude of the Residue - Residue Studies (continued)				
° Sugar beets				
--Crop field trials	TEP	Yes	GS0140063*	No
° Sweet potatoes				
--Field trials	TEP	Yes	GS0140064*	No
- Leaves of Root and Tuber Vegetables Group				
° Sugar beet tops				
--Field trials	TEP	Yes	GS0140063*	No
- Legume Vegetables (Succulent or Dried)				
° Dried Beans				
--Field trials	TEP	Yes	GS0140066*	No
° Soybean				
--Field trials	TEP	Yes	GS0140066*	No

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition[1/]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2/]
§158.125 Residue Chemistry (continued)				
171-4 - Magnitude of the Residue - Residue Studies (continued)				
-- Processed Food/Feed	EP	Partially	GS0140066*	Yes[6/]
Soybean meal				
Soybean hulls				
Soybean oil				
Soybean soapstock				
- Citrus Fruits Group				
° Grapefruit				
-- Field trials	TEP	Yes	GS0140067*, GS0140068*	No
° Lemons				
-- Field trials	TEP	Yes	GS0140069*	No
° Limes				
-- Field trials	TEP	Yes	GS0140070*	No

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?2/
§158.125 Residue Chemistry (continued)				
174-4 - Magnitude of the Residue - Residue Studies (continued)				
° Oranges				
-- Field trials	TEP	Yes	GS0140077*, GS0140072*	No
-- Processed Food/Feed	EP	Yes	GS0140077*, GS0140072*	No
Citrus juice				
Citrus molasses				
Citrus oil				
Citrus pulp				
- Tree Nut Group				
° Pecans				
-- Crop field trials	TEP	Yes	GS0140074*	No
- Cereal Grains Group				
° Sorghum grain				
-- Crop field trials	TEP	Yes	GS0140075*	No

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?2/
§158.125 Residue Chemistry (continued)				
174-4 - Magnitude of the Residue - Residue Studies (continued).				
-- Processed Food/Feed	EP	Yes	GS0140075*	No
Sorghum bran				
Sorghum flour				
Sorghum shorts				
- Forage, Fodder and Straw Cereal Grains Group				
° Sorghum fodder				
-- Crop field trials	TEP	Yes	GS0140076*	No
- Miscellaneous Crops				
° Bananas				
-- Crop field trials	TEP	Yes	GS0140077*	No
° Coffee				
-- Crop field trials	TEP	Partially	GS0140078*	Yes7/

TABLE A
GENREIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2]
§158.125 Residue Chemistry (continued)				
174-4 - Magnitude of the Residue - Residue Studies (continued)				
- Miscellaneous Crops (continued)				
° Cottonseed				
-- Field trials	TEP	Partially	00101977*, GS0140080	Yes[8]
-- Processed Food/Feed	EP	Yes	00101977*, GS0140080	No
Cottonseed hulls				
Cottonseed oil				
° Peanuts				
-- Field trials	TEP	Yes	GS0140081*	No
-- Processed Food/Feed	EP	Yes	GS0140081*	No
Peanut meal				
Peanut crude oil				

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition[1/]	Does EPA Have Data To Satisfy This Requirement? (Yes No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2/]
§158.125 Residue Chemistry (continued)				
174-4 - Magnitude of the Residue - Residue Studies (continued)				
- Miscellaneous Crops (continued)				
° Sugarcane				
-- Field trials	TEP	Yes	GS0140082*	No
-- Processed Food/Feed	EP	Yes	GS0140082*	No
Sugarcane, juice				
Sugarcane, molasses				
Sugarcane, raw sugar				
° Sugarcane, fodder				
-- Field trials	TEP	Yes	GS0140082*	No
° Sugarcane, forage				
-- Field trials	TEP	Yes	GS0140082*	No

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition[1/]	Does EPA Have Data To Satisfy This Requirement? (Yes No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2/]
§158.125 Residue Chemistry (continued)				
174-4 - Magnitude of the Residue - Residue Studies (continued)				
- Miscellaneous Crops (continued)				
° Tobacco				
-- Field trials	TEP	Yes	00102179*, 00102180*	No
° Meat	TEP	Partially	GS0140081*, 00101967* 00053372*	Reserved[9/]
° Milk	TEP	Yes	GS0140083*, 00053372*	No

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

§158.125 Residue Chemistry
(continued)

1/ Composition: TGAI = Technical grade of the active ingredient; PAIRA - Pure active ingredient, radiolabelled; TEP = Typical end-use product; EP = End-use product.
2/ Data must be submitted no later than APR 1986.
3/ A radio-labelled metabolism study in ruminants identifying and quantifying residues in tissue is required. If the the metabolism in the ruminant is found to differ significantly found that in the rat, a swine metabolism study will be needed.
4/ Stability data are needed for aldicarb residues in animal tissues a milk stored at freezing temperatures for a time period approximating the normal storage period.
5/ A processing study determining residues in potato granules and dried potatoes is needed. If residues are found to concentrate in these commodities, food additive tolerances will be required.
6/ A fractionation study is needed in which field treated soybeans containing weathered residues of 0.02 ppm are processed into meal, hulls, oil, and soapstock. If residues are found to concentrate in these commodities, food/feed additives tolerances will be needed.
7/ Residue analyses are needed for instant coffee.
8/ Residue determinations are needed on cotton foliage 90 days after sidedress treatments at 3 lbs. active ingredient/acre preceded by at-plant treatments of 1 lb. active ingredient/acre. If residues are detected, a cotton forage tolerance will be needed. Alternatively, label restrictions against feeding or grazing of cotton forage may be proposed.
9/ Depending upon the results of the 14-C radiolabeled ruminant metabolism study, a ruminant feeding study with the cholinesterase inhibiting metabolites aldicarb sulfoxide, aldicarb sulfone and any other metabolites of concern at levels of 0.8, 2.4 and 8.0 ppm for 28 consecutive days and subsequent residue analysis on ruminant tissues (muscle, liver, kidney, and fat) from animals sacrificed within 24 hours of the final feeding may be required. [The parent compound need not be fed since aldicarb per se is a minor residue in feed items.]

* Data submitted by Union Carbide. These data may be compensable.

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Use Patterns 2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?3/
§158.135 Toxicology					
ACUTE TESTING:					
81-1 - Oral LD_{50} - Rat	TGAI	A,B,F	Yes	00060194*, 00069745* 00100382, 00069922 00053342, 00057333 00030423, 00035372 00049330, 00100386* 00100389*, 00054410* 00035376*, 00100390* 00053343*, 00035375* 00100391, 00101917* 00079566, 00053341 00080698, 00061087 00054442*, 00100392* 00102070*, 00044739* 00055536*, 00029295 00100393*, 00080710 00028645*, 00028646* 00028647*, 00100384 00057332, 00091241 00080708	No
81-2 - Dermal LD_{50}	TGAI	A,B,F	Yes	00030424*, 00030425* 00055535*, 00060195* 00102143*, 00069919 00080811, 00101914* 00035378*, 00055537 00035370, 00035371 00510121	No

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Use Patterns 2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)? 3/
§158.135 Toxicology (continued)					
Acute Testing: (cont.)					
81-3 - Inhalation LC_{50} - Rat	TGAI	A,B,F	Yes	00073345*, 00101943	No
81-7 - Acute Delayed Neurotoxicity - Hen	TGAI	A,B,F	Yes	00080699, 00100387	No
SUBCHRONIC TESTING:					
82-1 - 90-Day Feeding - Rodent, Non-rodent	TGAI	A	Yes	00057337, 00100381 00069917, 00044737*	No
82-2 - 21-Day Dermal	TGAI	A,B,F	Yes	0510121, 0058632 00080701, 0080825	No
82-3 - 90-Day Dermal	TGAI	A,B,F	N/A	-	No
82-4 - 90-Day Inhalation - Rat	TGAI	A,B,F	N/A	-	No
82-5 - 90-Day Neurotoxicity-Hen/Mammal	TGAI	A,B,F	N/A	-	No

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Use Pattern 2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)?	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)? 3/
§158.135 Toxicology (continued)					
CHRONIC TESTING:					
83-1 - Chronic Toxicity - 2 species:					
Rodent	TGAI	A,B,F	Yes	00057340*, 00053350* 00029943*, 00060196* GS0140201	No
Non-rodent	TGAI	A,B,F	Yes	GS0140202	No
83-2 - Oncogenicity Study - 2 species:					
Rat	TGAI	A,B,F	Yes	GS0140203, 00029943*	No
Mouse	TGAI	A,B,F	Yes	GS0140203, 00081413 00044732*, 00044733* 00044734*, 00100388*	No
83-3 - Teratogenicity - 2 species	TGAI	A,B,F	Yes	GS0140200*, GS0140204* 00069918, 00044736*	No
83-4 - Reproduction, 2-generation	TGAI	A,B,F	Yes	GS0140204*, 00044736* 00069918	No

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Use 2/ Pattern	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)?	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)? 3/
§158.135 Toxicology (continued)					
MUTAGENICITY TESTING:					
84-2 - Gene Mutation	TGAI	A,B,F	Yes	00042482*, 00079923* 00073207	No
84-2 - Chromosomal Aberration	TGAI	A,B,F	No	-	Yes
84-2 - Other Mechanisms of Mutagenicity	TGAI	A,B,F	Partially	00044736*	Yes
SPECIAL TESTING:					
85-1 - General Metabolism	PAI or PAIRA	A,B,F	Yes	00102023, 00080709 00035372, 00081414	No
85-2 - Domestic Animal Safety	Choice	A,B	Yes	00034380, 00075794 00101921, 00035377 00080814, 00060554	No

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1/ Composition: TGAI = Technical grade of the active ingredient.

2/ The use patterns are coded as follows: A=Terrestrial, Food Crop; B=Terrestrial, Non-Food; C=Aquatic, Food Crop; D=Aquatic, Non-Food; E=Greenhouse, Food Crop; F=Greenhouse, Non-Food; G=Forestry; H=Domestic Outdoor; I=Indoor.

3/ Data must be submitted no later than APR 1985.

* Data submitted by Union Carbide. These data may be compensable.

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Use 2/ Pattern	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?
§158.130 Environmental Fate					
DEGRADATION STUDIES-LAB:					
161-1 - Hydrolysis	TGAI or PAIRA	A,B	Yes	00102065*, 00102066*	No
Photodegradation					
161-2 - In water	TGAI or PAIRA	A,B	No	-	Yes[15]
161-3 - On soil	TGAI or PAIRA	A,B	No	-	No[4]
161-4 - In Air	TGAI or PAIRA	A,B	No	-	No[4]
METABOLISM STUDIES-LAB:					
162-1 - Aerobic Soil	TGAI or PAIRA	A,B,F	Yes	00102051*, 00101934 00035365, 00102071 00102054*, 00053370* 0093642, 00080820 00093640 , 00053366	No
162-2 - Anaerobic Soil	TGAI or PAIRA	A	Partially	00053370*, 00102054*	Yes[5]
162-3 - Anaerobic Aquatic	TGAI or PAIRA	-	No	-	Yes[6]
162-4 - Aerobic Aquatic	TGAI or PAIRA	-	No	-	Yes[6]

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Use 2/ Pattern	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?
§158.130 Environmental Fate (continued)					
MOBILITY STUDIES:					
163-1 - Leaching and Adsorption/Desorption	TGAI or PAIRA	A,B,F	No	-	Yes15/
163-2 - Volatility (Lab)	TEP	A,B,F	No	-	Yes15/
163-3 - Volatility (Field)	TEP	A,B,F	No	-	Reserved7/
DISSIPATION STUDIES-FIELD:					
164-1 - Soil	TEP	A,B	No	-	Yes8/
164-2 - Aquatic (Sediment)	TEP	-	No	-	No9/
164-3 - Forestry	TEP	-	No	-	No9/
164-4 - Combination and Tank Mixes	-	-	No	-	No10/
164-5 - Soil, Long-term	TEP	A,B	No	-	Yes3/

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Use Pattern 2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?
§158.130 Environmental Fate (continued)					
ACCUMULATION STUDIES:					
165-1 - Rotational Crops (Confined)	PAIRA	A	No	-	Yes
165-2 - Rotational Crops (Field)	TEP	A	No	-	Reserved11/
165-3 - Irrigated Crops	TEP	-	No	-	No9/
165-4 - In Fish	TGAI or PAIRA	A,B	No	-	No12/
165-5 - In Aquatic Non-Target Organisms	TEP	-	No	-	No9/
§158.140 Reentry Protection					
132-1 - Foliar Dissipation	TEP	A,B	No	-	No13/
132-1 - Soil Dissipation	TEP	A,B	No	-	Yes3/
133-3 - Dermal Exposure	TEP	A,B	No	-	Yes3/
133-4 - Inhalation Exposure	TEP	A,B	No	-	No13/

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

§158.130 Environmental Fate
(continued)

1/ Composition: TGAI = Technical grade of the active ingredient; PAIRA = Pure active ingredient, radiolabelled; TEP = Typical end-use product.
2/ The use patterns are coded as follows: A=Terrestrial, Food Crop; B=Terrestrial, Non-Food; C=Aquatic, Food Crop; D=Aquatic, Non-Food; E=Greenhouse, Food Crop; F=Greenhouse, Non-Food; G=Forestry; H=Domestic Outdoor; I=Indoor.
3/ Data must be submitted no later than APR 1988.
4/ This requirement is waived because aldicarb is soil incorporated.
5/ A study is needed to establish a quantitative decline curve and half-life for aldicarb and the pattern of formation and decline of degradates. Data must be submitted no later than APR 1986.
6/ Required based on the results of ground water monitoring and leaching studies. Data must be submitted no later than APR 1986.
7/ Reserved pending results of a laboratory volatility study.
8/ Sampling should be done to a depth sufficient to define the extent of leaching. Data must be submitted no later than APR 1986.
9/ Not required since aldicarb has no forestry or aquatic uses.
10/ This document deals only with single active ingredients.
11/ Reserved pending the results from confined rotational crop studies.
12/ Not required since aldicarb has an octanol/water coefficient of 5 and is not expected to bioaccumulate.
13/ Not required since aldicarb is soil incorporated.
14/ Data are needed on soil dissipation in the top 1 cm of soil.
15/ Data must be submitted no later than APR 1985.

* Data submitted by Union Carbide. These data may be compensable.

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Use 2/ Pattern	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)? 3/
§158.145 Wildlife and Aquatic Organisms					
AVIAN AND MAMMALIAN TESTING					
71-1 - Avian Oral LD_{50} a. waterfowl b. upland	TGAI	A,B,F	Yes	GS0140100*, GS0140103 GS0140101	No
71-2 - Avian Dietary LC_{50} a. waterfowl b. upland	TGAI	A,B,F	Yes	00022923, 00102132*, GS0140102	No
71-3 - Wild Mammal Toxicity	TGAI	-	N/A	-	No
71-4 - Avian Reproduction	TGAI	A	N/A	-	No
71-5 - Simulated and Actual Field Testing - Mammals and Birds	TEP	A	Partially	00101961, 00101962 00101960, 00101959	Yes 4/
AQUATIC ORGANISM TESTING					
72-1 - Freshwater Fish LC_{50} a. warmwater	TGAI	A,B,F	Yes	GS0140104*, GS0140105 00003503	No
b. coldwater	TGAI	A,B,F	Yes	GS0140104*, 00003503	No
72-2 - Acute LC_{50} Freshwater Invertebrates	TGAI	A,B,F	Yes	GS0140106*	No

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition 1/	Use 2/ Pattern	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.145 Wildlife and Aquatic Organisms (continued)					
72-3 - Acute LC_{50} Estuarine and Marine Organisms a. shrimp b. fish c. mollusk	TGAI	A,B	Yes	00066341	No
72-4 - Fish Early Life Stage and Aquatic Invertebrate Life-Cycle	TGAI	A,B			
a. Freshwater fish	TGAI	A,B	Partially	GS0140105	Reserved[5]
b. shrimp	TGAI	A,B	Yes	00066341	No
72-5 - Fish - Life-Cycle	TGAI	A,B	Yes	00066341	No
72-6 - Aquatic Organism Accumulation	TGAI, PAI OR Degradation Product	-	N/A	-	No
72-7 - Simulated or Actual Field Testing - Aquatic Organisms	TEP	A,B	No	-	Reserved[6]

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

§158.145 Wildlife and Aquatic Organisms (cont.)

1/ Composition: TGAI = Technical grade of the active ingredient; PAI = pure active ingredient; TEP = Typical end-use product;

2/ The use patterns are coded as follows: A=Terrestrial, Food Crop; B=Terrestrial, Non-Food Crop; C=Aquatic, Food Crop; D=Aquatic, Non-Food; E=Greenhouse, Food Crop; F=Greenhouse, Non-Food; G=Forestry; H=Domestic Outdoor; I=Indoor.

3/ Data must be submitted no later than APR 1986.

4/ Data are needed which quantify the impact on avian and small mammal populations. Such data should determine whether the effects are excessive, longlasting or likely to diminish wildlife resources in treated areas.

5/ This requirement is reserved pending registrant satisfying certain environmental fate data requirements (photodegradation in water, aquatic metabolism, leaching and adsorption/desorption, and laboratory and field volatility) and information concerning aldicarb transport to water via runoff.

* Data submitted by Union Carbide. These data may be compensable.

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition[1/]	Use Pattern[2/]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?
§158.155 Nontarget Insect					
NONTARGET INSECT TESTING - POLLINATORS:					
141-1 - Honey bee acute contact LD_{50}	TGAI	A,B	Yes	00036935	No
141-2 - Honey bee - toxicity of residues on foliage	TEP	A,B	No	-	No[3/]
141-3 - Wild bees important in alfalfa pollination - toxicity of residues on foliage	TEP	A,B	No	-	No[3/]
141-4 - Honey bee subacute feeding study	(Reserved)[4/]				
141-5 - Field testing for pollinators	TEP	A,B	No	-	No[3/]

TABLE A
GENERIC DATA REQUIREMENTS FOR ALDICARB

Data Requirement	Composition	Use Pattern	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?
§158.155 Nontarget Insect (continued)					
NONTARGET INSECT TESTING - AQUATIC INSECTS:					
142-1 - Acute toxicity to aquatic insects	(Reserved)5/				
142-2 - Aquatic insect life-cycle study	(Reserved)5/				
142-3 - Simulated or actual field testing for aquatic insects	(Reserved)5/				
143-1 thru 143-3 - NONTARGET INSECT TESTING - PREDATORS AND PARASITES	(Reserved)5/				

1/ Composition: TGAI = Technical grade of the active ingredient; TEP = Typical end-use product.
2/ The use patterns are coded as follows: A=Terrestrial, Food Crop; B=Terrestrial, Non-Food; C=Aquatic, Food Crop: D=Aqautic, Non-Food; E=Greenhouse, Food Crop; F=Greenhouse, Non-Food; G=Forestry; H=Domestic Outdoor; I=Indoor.
3/ As aldicarb is registered only as a granular formulation, there is no potential for bee exposure. Thus, testing beyond the first tier is not required.
4/ Reserved pending development of test methodology.
5/ Reserved pending Agency decision as to whether the data requirement should be established.

III. REQUIREMENT FOR SUBMISSION OF PRODUCT-SPECIFIC DATA

Note: This Section applies only to manufacturing-use products, not end-use products.

A necessary first step in determining which statements must appear on your product's label is the completion and submission to EPA of product-specific data* listed on the form entitled "Product Specific Data Report" (EPA Form 8580-4, Appendix III-1) to fill "gaps" identified by EPA concerning your product. Under the authority of FIFRA Section 3(c)(2)(B), EPA has determined that you must submit these data to EPA in order to register or reregister your product(s). All of these data must be submitted not later than six months after you receive this guidance document.

"Product-Specific Data Requirements for Manufacturing-Use Products" appearing in Table B permit you to determine which product-specific data you must submit. This can be done by examining the entries in the column of those tables entitled "Must Data Be Submitted Under §3(c)(2)(B)."

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*/ Product specific data pertains to data that support the formulation which is marketed; it usually includes product chemistry data and acute toxicology data.

TABLE B
PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING ALDICARB

§158.120 - PRODUCT CHEMISTRY

Guideline Citation and Name of Test	Test Substance[1]/	Guidelines Status	Are Data Required[2]/ Yes	No	Footnote Number
Product Identity:					
61-1 - Identity of Ingredients	MP	R	☐	☒	
61-2 - Statement of Composition	MP	R	☒	☐	
61-3 - Discussion of Formation of Ingredients	MP	R	☒	☐	
Analysis and Certification of Product Ingredients					
62-1 - Preliminary Analysis	MP	R	☒	☐	
62-2 - Certification of Limits	MP	R	☒	☐	
62-3 - Analytical Methods for Enforcement of Limits	MP	R	☐	☒	
Physical and Chemical Characteristics					
63-2 - Color	MP	R	☒	☐	
63-3 - Physical State	MP	R	☒	☐	
63-4 - Odor	MP	R	☒	☐	

TABLE B
PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING ALDICARB

§158.120 - PRODUCT CHEMISTRY (Con't)

Guideline Citation and Name of Test	Test Substance1/	Guidelines Status	Are Data Required2/ Yes	No	Footnote Number
Physical and Chemical Characteristics (Continued)					
63-7 - Density, Bulk Density, or Specific Gravity	MP	R	☒	☐	
63-12 - pH	MP	R	☒	☐	
63-14 - Oxidizing or Reducing Action	MP	CR	☒	☐	
63-15 - Flammability	MP	CR	☒	☐	
63-16 - Explodability	MP	R	☒	☐	
63-17 - Storage Stability	MP	R	☒	☐	
63-18 - Viscosity	MP	CR	☒	☐	
63-19 - Miscibility	MP	CR	☒	☐	
63-20 - Corrosion Characteristics	MP	R	☐	☒	
Other Requirements:					
64- 1 - Submittal of samples	PAI	CR	☐	☒	

1/ Composition: PAI = Pure active ingredient; MP = Manufacturing use product.
2/ Data must be submitted no later than OCT 1984.

TABLE B
PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING ALDICARB

Data Requirement	Composition 1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?
§158.135 Toxicology				
ACUTE TESTING				
81-1 - Oral LD_{50} -Rat	MP	Yes	00060194*, 00069745* 00100382, 00069922 00053342, 00057333 00030423, 00035372 00049330, 00100386* 00100389*, 00054410* 00035376*, 00100390* 00053343*, 00035375* 00100391, 00101917* 00079566, 00053341 00080698, 00061087 00054442*, 00100392* 00102070*, 00044739* 00055536*, 00029295 00100393*, 00080710 00028645*, 00028646* 00028647*, 00100384 00057332, 00091241 00080708	No
81-2 - Dermal LD_{50}	MP	Yes	00030424*, 00030425* 00055535*, 00060195* 00102143*, 00069919 00080811, 00101914* 00035378*, 00055537 00035370, 00035371 0510121	No

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING ALDICARB

Data Requirement	Composition 1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?
§158.135 Toxicology (continued)				
ACUTE TESTING (continued)				
81-3 - Inhalation LC_{50} - Rat	MP	Yes	00073345*, 00101943 00102070*	No
81-4 - Primary Eye Irritation - Rabbit	MP	Yes	00080810, 00069916 00054410*, 00100389* 00035376*	No
81-5 - Primary Dermal Irritation	MP	Yes	00058632, 00080810 00069916	No
81-6 - Dermal Sensitization	MP	Yes	GS0140201*	No

1/ Composition: MP = Manufacturing-use product.

* Data submitted by Union Carbide. These data may be compensable.

IV. SUBMISSION OF REVISED LABELING AND PACKAGING INFORMATION

Note: This section applies to end-use products only to the the extent described under Section II of this document. Otherwise, the following information pertains exclusively to manufacturing-use products.

The Agency requires applicants for registration or reregistration to ensure that each label (1) contains accurate, complete, and sufficient instructions and precautions, reflecting the results of data concerning the product and its ingredients, and (2) incorporates labeling format and terminology which are sufficiently standardized to avoid user confusion.

As part of your application, you will be required to submit draft labeling consistent with: applicable product-specific data; the precautionary statements and use directions; and the regulations concerning classification [40 CFR §162.11(c)], packaging [40 CFR §162.16], and labeling [40 CFR §162.10, Appendix IV-1 an IV-2], as indicated by the following paragraphs of this chapter of the guidance document.

If owners of currently registered products fail to submit revised labeling and packaging information complying with this Section and/or Section II, EPA may issue a notice of intent to cancel the registration under FIFRA §6(b)(1).

A. Label Contents

40 CFR §162.10 (Appendix IV-1) requires that certain specific labeling statements must appear at certain locations on the label. This is referred to as format labeling. Specific label items listed below are keyed to Tables D, E, and F (Appendix IV-2).

Item 1. PRODUCT NAME - The name, brand, or trademark is required to be located on the front panel, preferably centered in the upper part of the panel. The name of a product will not be accepted if it is false or misleading. See Appendix IV-1. [40 CFR §162.10(b)]

Item 2. COMPANY NAME AND ADDRESS - The name and address of the registrant or distributor is required on the label. The name and address should preferably be located at the bottom of the front panel or at the end of the label text. See Appendix IV-1. [40 CFR §162.10(c)]

Item 3. NET CONTENTS - A net content statement is required on all labels. The preferred location is the bottom of the front panel immediately above the company name and address, or at the end of the label text. The net contents must be stated in terms of weight, expressed as avoirdupois pounds and ounces, and stated in terms of the largest suitable unit, i.e., "1 pound 10 ounces" rather than "26 ounces." In addition to the required units specified, net contents may be expressed in metric units. See Appendix IV-1. [40 CFR §162.10(d)]

Item 4. EPA REGISTRATION NUMBER - The registration number assigned to the pesticide product must appear on the label, preceded by the phrase "EPA Registration No.," or "EPA Reg. No." The registration number must be set in type of a size and style similar to other print on that part of the label on which it appears and must run parallel to it. The registration number and the required identifying phrase must not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency. See Appendix IV-1. [40 CFR §162.10(e)]

Item 5. EPA ESTABLISHMENT NUMBER - The EPA establishment number, preceded by the phrase "EPA Est." is the final establishment at which the product was produced, and may appear in any suitable location on the label or immediate container. It must also appear on the wrapper or outside container of the package if the EPA establishment registration number on the immediate container cannot be clearly read through such wrapper or container. See Appendix IV-1. [40 CFR §162.10(f)]

Item 6. INGREDIENT STATEMENT - An ingredient statement is required on the front panel and must contain the name and percentage by weight of each active ingredient and the total percentage by weight of all inert ingredients. The preferred location is immediately below the product name. The ingredient statement must run parallel with, and be clearly distinguished from, other text on the panel. It must not be placed in the body of other text. See Appendix IV-1. [40 CFR 162.10(g)]

Item 6A. POUNDS PER GALLON STATEMENT - For liquid agricultural formulations, the pounds per gallon of active ingredient must be indicated on the label.

Item 7. FRONT LABEL PRECAUTIONARY STATEMENTS - All labels are required to have precautionary statements grouped together on the front panel, preferably within a block outline. The table below shows the minimum type size requirements on various size labels, as set forth in the Regulations.

Size of Label on Front Panel in Square Inches	Signal Word as Required Minimum Type Size All Capitals	"Keep Out of Reach of Children" as Required
5 and under	6 point	6 point
above 5 to 10	10 point	6 point
above 10 to 15	12 point	8 point
above 15 to 30	14 point	10 point
over 30	18 point	12 point

Item 7A. CHILD HAZARD WARNING STATEMENT - All labels are required to have the statement "Keep Out of Reach of Children" located on the front panel above the signal word except where contact with children during distribution or use is unlikely. See Appendix IV-1. [40 CFR §162.10(h)(1)(ii)]

Item 7B. SIGNAL WORD - The signal word (Caution, Warning, or Danger) is required on the front panel immediately below the child hazard warning statement. See Appendix IV-1. [40 CFR §162.10 (h)(1)(i)]

Item 7C. SKULL & CROSSBONES AND WORD "POISON" - On products assigned a toxicity Category I on the basis of oral, inhalation, or dermal toxicity, the word "Poison" shall appear on the label in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word poison. See Appendix IV-1. [40 CFR §162.10(h)(1)(i)]

Item 7D. STATEMENT OF PRACTICAL TREATMENT - A statement of practical treatment (first aid or other) shall appear on the label of pesticide products in toxicity Categories I, II, and III. See Appendix IV-1. [40 CFR §162.10(h)(1)(iii)]

Item 7E. REFERRAL STATEMENT - The statement "See Side (or Back) Panel for Additional Precautionary Statements" is required on the front panel for all products, unless all required precautionary statements appear on the front panel. See Appendix IV-1. [40 CFR §162.10(h)(1)(iii)]

Item 8. SIDE/BACK PANEL PRECAUTIONARY LABELING - The precautionary statements as listed below must appear together on the label under the heading "PRECAUTIONARY STATEMENTS." The preferred location is at the top of the side or back panel preceding the directions for use, and it is preferred that these statements be surrounded by a block outline. Each of the three hazard warning statements must be headed by the appropriate hazard title. See Appendix IV-1. [40 CFR §162.10 (h)(2)]

Item 8A. HAZARD TO HUMANS AND DOMESTIC ANIMALS - Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions taken to avoid accident, injury or damage. See Appendix IV-1. [40 CFR §162.10 (h)(2)(i)]

Item 8B. ENVIRONMENTAL HAZARD - Where a hazard exists to non-target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury, or damage. See Appendix IV-1. [40 CFR §162.10(h)(2)(ii)]

Item 8C. PHYSICAL OR CHEMICAL HAZARD

1. Flammability statement. Precautionary statements relating to flammability of a product are required to appear on the label if it meets the criteria in Appendix IV-3. The requirement is based on the results of the flashpoint determinations and flame extension tests required to be submitted for all products. These statements are to be located in the side/back panel precautionary statements section, preceded by the heading "Physical/Chemical Hazards." Note that no signal word is used in conjunction with the flammability statements.

2. Criteria for declaration of non-flammability. The following criteria will be used to determine if a product is non-flammable:

    a. A "non-flammable gas" is a gas (or mixture of gases) that will not ignite when a lighted match is placed against the open cylinder valve.

    b. A "non-flammable liquid" is one having a flashpoint greater than 350°F (177°C) as determined by the method specified in 40 CFR §163.61-8(c)(13)(ii) of Subpart D.

    c. A "non-flammable aerosol" is one which meets the following criteria:

        i. The flame extension is zero inches, using the method specified in 40 CFR §163.61-8(c)(13)(ii);

        ii. There is no flash back; and

        iii. The flashpoint of the non-volatile liquid component is greater than 350°F (177°C), determined by the method specified in 40 CFR §163.61-8(c)(13)(i).

3. Declaration of non-flammability. Products which meet the criteria for non-flammability specified above may bear the notation "non-flammable" or "nonflammable (gas, liquid, etc.)" on the label.

   It may appear as a substatement to the ingredients statement, or on a back or side panel, but shall not be highlighted or emphasized (as with an inordinately large type size) in any way that may detract from precaution.

4. Other physical/chemical hazard statements. When chemistry data submitted in accordance with 40 CFR §163.61-10(c) demonstrate hazards of a physical or chemical nature other than flammability, appropriate statements of hazard will be prescribed. Such statements may address hazards of explosivity, oxidizing or reducing capability, or mixing with other substances to produce toxic fumes.

Item 9. MISUSE STATEMENT - The following statement is required on your label: "It is a violation of Federal law to use this product in a manner inconsistent with its labeling." See Appendix IV-1. [40 CFR §162.10(1)(2)(ii)]

Item 10A. STORAGE AND DISPOSAL BLOCK - All labels are required to bear storage and disposal statements. These statements are developed for specific containers, sizes, and chemical content. Make certain that the statement you use pertains specifically to your product. These instructions must be grouped and appear under the heading "Storage and Disposal" in the directions for use. This heading must be set in the same type sizes as required for the child hazard warning. Refer to Appendix IV-5 for the latest specific storage and disposal product label statements.

Item 10B. DIRECTIONS FOR USE - Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment. See Appendix IV-1. [40 CFR §162.10]

B. Collateral Information

Bulletins, leaflets, circulars, brochures, data sheets, flyers, and other graphic printed matter which is referred to on the label or which is to accompany the product are termed collateral labeling. Such labeling may not bear claims or representations that differ in substance from those accepted in connection with registration of the product. It should be made part of the response to this notice and submitted for review.

V. INSTRUCTIONS FOR SUBMISSION

All applications prepared in response to this Notice should be addressed as follows:

Product Manager-12 (Jay S. Ellenberger)
Phone No. (703) 557-2386
Registration Division (TS-767)
Office of Pesticide Programs
Environmental Protection Agency
Washington, D.C. 20460

For each product for which continued registration is desired:

1. Within 90 days from receipt of this document, you must submit the "FIFRA Section 3(c)(2)(B) Summary Sheet" EPA Form 8580-1. Refer to Appendix II-2 with appropriate attachments.

2. Within 6 months from receipt of this document registrants must submit:

   a. Confidential Statement of Formula, EPA Form 8570-4.

   b. Product Specific Data Report, EPA Form 8580-4 (Appendix III-1).

   c. Two copies of any required product-specific data.

   d. Two copies of draft labeling, including the label and associated brochures. If current labeling conforms to the requirements of this guidance document and the results of the short-term data, the registrant may submit such labeling. (End-use product labeling needs to comply specifically with the instruction in Section II of this guidance document.) The labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for stortage in 8-1/2 x 11 inch files. The draft label must indicate the intended colors of the final label, clear indication of the front panel label, and the intended type sizes of the text.

3. Within the time set forth in Table A, all generic data must be submitted by the affected registrant(s).

Note: If for any reason any required test is delayed or aborted so that meeting the agreed submission time will be delayed, notify the Product Manager listed above.

After the Supreme Court has ruled on the Monsanto Decision, you will be informed as to when you must submit your Application for Amended Pesticide Registration (EPA Form 8570-1) and the associated data support information.

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION GUIDANCE DOCUMENT BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under this Guidance Document

GS0140001 Andrawes, N.R., W.P. Bagley, and R.A. Herrett. 1971. Metabolism of 2-methyl-2-(methylthio)propionaldehyde O-(methylcarbamoyl)oxime (Temik aldicarb pesticide) in Potato Plants. J. Agric. Food Chem. 19(4):731-737. Submitted by Union Carbide Corp. under PP#3F1414 (Acc.#118303).

GS0140002 Andrawes, N.R., R.R. Bomine, and W.P. Bagley. 1973. Metabolism and Residues of Temik Aldicarb Pesticide in Cotton Foliage and Seed Under Field Conditions. J. Agric. Food Chem. 21(3):379-386. Submitted by Union Carbide Corp. under PP#7F1995 (Acc.#096302).

GS0140003 Bartley, W.J., N.R. Andrawes, E.L. Chancey, W.P. Bagley, and H.W. Spurr. 1970. The Metabolism of Temik Aldicarb Pesticide [2-methyl-2-(methylthio) propionaldehyde O-(methylcarbamoyl)oxime] in the Cotton Plant. J. Agric. Food Chem. 18(3):446-523. Submitted by Union Carbide Corp. under PP#7F1995 (Acc.#096302).

GS0140004 Coppedge, J.R., D.A. Lindquist, D.L. Bull, and H.W. Dorough. 1967. Fate of 2-methyl-2-(methylthio) propionaldehyde O-(methylcarbamoyl)oxime (Temik) in Cotton Plants and Soil. J. Agric. Food Chem. 15(5): 902-910. Submitted by Union Carbide Corp. under PP# 9F0798 (Acc.#115902).

GS0140005 Metcalf, R.L., T.R. Fukerto, Crystal Collins, Kathleen Borck, Janet Burk, H.T. Reynolds, and M.F. Osman. 1966. Metabolism of 2-methyl-2-(methylthio)propional dehyde O-(methylcarbamoyl)oxime in Plant and Insect. J. Agric. Food Chem. 14(6):579-584. Submitted by Union Carbide Corp. under PP#8F0637 (Acc.#115920)

GS0140006 Rouchaud, J., C. Moons, and J.A. Meyer. 1980a. Metabolism of Temik ^{14}C-aldicarb in the sugar beet. Med. Fac. Landbouww Rijksuniv. Gent. 45(4):895-903.

GS0140007 Rouchaud, J., C. Moons, and J.A. Meyer. 1980b. Distribution of the radioactivity in sugar beet plants treated with [^{14}C]aldicarb. Pestic. Sci. 11:83-89.

GS0140008 Rouchaud, J., C. Moons, and J.A. Meyer. 1980c. The metabolism of [^{14}C]aldicarb in the leaves of sugar beet plants. Pestic. Sci. 11:483-492.

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GS0140009 Rouchaud, J., C. Moons, and J.A. Meyer. 1981. The metabolism of $[^{14}C]$aldicarb in the root of sugar beet plants. Pestic. Sci. 12:548-556.

GS0140010 Union Carbide Corp. 1966. Insecticide Temik: Metabolism and distribution in potato. Submitted by Union Carbide Corp. under PP#7F0573. (Acc.#114930).

GS0140011 Union Carbide Corp. 1968. Project No. 111B19, File No. 10492: Metabolism of C14-Temik in Cotton Plants Under Field Conditions. Submitted by Union Carbide Corp. under PP#7F1953 (Acc.#096131).

GS0140012 Union Carbide Corp. 1968. Project No. 111B19, File No. 10495: Degradation of 2-methyl-2-(methylthio) propionaldehyde O-(methylcarbamoyl)oxime (Temik) in Potato Foliage. Submitted by Union Carbide Corp. under PP#9F0798 (Acc.#115902).

GS0140013 Union Carbide Corp. 1970. Project No. 111B19, File No. 12694: Metabolism and Associated Residues of Temik (2-methyl-2-(methylthio)propionaldehyde O-(methylcarbamoyl)oxime) in Sugar Beet Plants. Submitted by Union Carbide Corp. under PP#7F1995 (Acc.#096302).

GS0140014 Union Carbide Corp. 1972. Project No. 111A12, File No. 17613: The Metabolism and Terminal Residues of Temik Aldicarb Pesticide in Peanut Plants under Field Conditions. Submitted by Union Carbide Corp. under PP#7F1995 (Acc.#096302).

GS0140015 Union Carbide Corp. 1977. Project No. 111B19, File No. 10496. Metabolism and Associated Residues of Temik in Spearmint and Lettuce. Submitted by Union Carbide Corp. under PP#7F1995 (Acc.#096302).

GS0140019 Andrawes, N.R., et al. 1967. Degradation and Elimination of Temik in Rats. J. Econ. Ento. 60:979-987. Submitted by Union Carbide Corp. under PP#7F1953 (Acc.#096131).

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OMB Approval No. 2000-0468 (Expires 12-31-83)

FIFRA SECTION 3(C)(2)(B) SUMMARY SHEET	EPA REGISTRATION NO.
PRODUCT NAME	
APPLICANT'S NAME	DATE GUIDANCE DOCUMENT ISSUED

With respect to the requirement to submit "generic" data imposed by the FIFRA section 3(C)(2)(B) notice contained in the referenced Guidance Document, I am responding in the following manner:

☐ 1. I will submit data in a timely manner to satisfy the following requirements. If the test procedures I will use deviate from (or are not specified in) the Registration Guidelines or the Protocols contained in the Reports of Expert Groups to the Chemicals Group, OECD Chemicals Testing Programme, I enclose the protocols that I will use:

☐ 2. I have entered into an agreement with one or more other registrants under FIFRA section 3(C)(2)(B)(ii) to satisfy the following data requirements. The tests, and any required protocols, will be submitted to EPA by:

NAME OF OTHER REGISTRANT

☐ 3. I enclose a completed "Certification of Attempt to Enter Into an Agreement with Other Registrants for Development of Data" with respect to the following data requirements:

☐ 4. I request that you amend my registration by deleting the following uses (this option is not available to applicants for new products):

☐ 5. I request voluntary cancellation of the registration of this product. (This option is not available to applicants for new products.)

REGISTRANT'S AUTHORIZED REPRESENTATIVE	SIGNATURE	DATE

EPA Form 8580-1 (10-82)

APPENDIX II-3

OMB Approval No. 2000-0468 (Expires: 12-31-83)

CERTIFICATION OF ATTEMPT TO ENTER INTO AN AGREEMENT WITH OTHER REGISTRANTS FOR DEVELOPMENT OF DATA

(To qualify, certify ALL four items)

1. I am duly authorized to represent the following firm(s) who are subject to the requirements of a Notice under FIFRA Section 3(c)(2)(B) contained in a Guidance Document to submit data concerning the active ingredient:	GUIDANCE DOCUMENT DATE ACTIVE INGREDIENT

NAME OF FIRM	EPA COMPANY NUMBER

(This firm or group of firms is referred to below as "my firm".)

2. My firm is willing to develop and submit the data as required by that Notice, if necessary. However, my firm would prefer to enter into an agreement with one or more other registrants to develop jointly, or to share in the cost of developing, the following required items or data:

3. **My firm has offered in writing to enter into such an agreement. Copies of the offers are attached. That offer was irrevocable and included an offer to be bound by an arbitration decision under FIFRA Section 3(c)(2)(B)(iii) if final agreement on all terms could not be reached otherwise. This offer was made to the following firm(s) on the following date(s):**

NAME OF FIRM	DATE OF OFFER

However, none of those firm(s) accepted my offer.

4. My firm requests that EPA not suspend the registration(s) of my firm's product(s), if any of the firms named in paragraph (3) above have agreed to submit the data listed in paragraph (2) above in accordance with the Notice. I understand EPA will promptly inform me whether my firm must submit data to avoid suspension of its registration(s) under FIFRA Section 3(c)(2)(B). (This statement does not apply to applicants for new products.) I give EPA permission to disclose this statement upon request.

TYPED NAME	SIGNATURE	DATE
	64	

EPA Form 8580-6 (10-82)

PRODUCT SPECIFIC DATA REPORT

EPA Registration No.________________Guidance Document for__________________________

Date_______________________

Registration Guideline No.	Name of Test	Test not required for my product listed above (check below)	I am complying with data requirements by		(For EPA Use Only) Accession Numbers Assigned
			Citing MRID#	Submitting Data (Attached)	
§158.20 PRODUCT CHEMISTRY					
61-1	Identity of ingredients				
61-2	Statement of composition				
61-3	Discussion of formation of ingredients				
62-1	Preliminary analysis				
62-2	Certification of limits				
62-3	Analytical methods for enforcement limits				
63-2	Color				
63-3	Physical state				
63-4	Odor				
63-5	Melting point				
63-6	Boiling point				
63-7	Density, bulk-density, or specific gravity				
63-8	Solubility				
63-9	Vapor pressure				
63-10	Dissociation constant				
63-11	Octanol/water partition coefficient				
63-12	pH				
63-13	Stability				
63-14	Oxidizing/reducing reaction				
63-15	Flammability				
63-16	Explodability				
63-17	Storage stability				
63-18	Viscosity				
63-19	Miscibility				

63-20	Corrosion characteristics				
63-21	Dielectric breakdown voltage				
§158.135 TOXICOLOGY					
81-1	Acute oral LD-50, rat				
81-2	Acute dermal LD-50				
81-3	Acute inhalation, LC-50 rat				
81-4	Primary eye irritation, rabbit				
81-5	Primary dermal irritation				
81-6	Dermal sensitization				

~~cant obtained the data from another firm (identify); applicant copied data from a publication; applicant obtained a copy of the data from EPA).~~

~~(d) The applicant shall submit with his application a statement that EPA, in its evaluation of the properties, efficacy, and safety of the formulated end-use product, may not consider any data as supporting the application, except the following data:~~

~~(1) The data the applicant has submitted to EPA under paragraph (b) of this section;~~

~~(2) Other data pertaining to the safety of the product's active ingredients, rather than to the safety of the end-use product; and~~

~~(3) Existing tolerances, food additive regulations, exemptions, and other clearances issued under the Federal Food, Drug, and Cosmetic Act.~~

~~(e) If the applicant knows that any item of data he submitted under this section was generated by (or at the expense of) another person who originally submitted the data to EPA (or its predecessor, USDA) on or after January 1, 1970, to support an application for registration, experimental use permit, or amendment adding a new use to an existing registration, or for reregistration (unless the applicant and the original data submitter have reached written agreement on the amount and the terms of payment of any compensation that may be payable under FIFRA section 3(c)(1)(D)(ii) with regard to approval of the application), the applicant shall submit to EPA a statement that he has furnished to each such identified original data submitter:~~

~~(1) A notification of the applicant's intent to apply for registration, including the proposed product name;~~

~~(2) An offer to pay the person compensation, with regard to the approval of the application, to the extent required by FIFRA sections 3(c)(1)(D) and 3(c)(2)(D);~~

~~(3) An identification of the item(s) of data to which the offer applies;~~

~~(4) An offer to commence negotiations to ascertain the amount and terms of compensation to be paid; and~~

~~(5) The applicant's name, address, and telephone number.~~

~~(f) If the applicant's product contains any active ingredient other than those that are present solely because of the incorporation into the product, during formulation, of one or more other registered pesticide products purchased from another producer, then the applicant shall also comply with § 162.9-5 as to such active ingredient, and the application shall contain an acknowledgment that for purposes of FIFRA section 3(c)(1)(D) the application relies on (and any resulting registration should be regarded as if it were based on the Administrator's consideration of) the following data:~~

~~(1) All data submitted or specifically cited by the applicant in support of the registration; and~~

~~(2) Each other item of data in the Agency's files which:~~

~~(i) Concerns the properties or effects of any such active ingredient; and~~

~~(ii) Is one of the types of data that EPA would require to be submitted for scientific review by EPA if the applicant sought the initial registration under FIFRA Section 3(c)(5) of a product with composition and intended uses identical to those proposed for the applicant's product, under the data requirements in effect on the date EPA approves the applicant's present application.~~

~~(Secs. 3, 6, and 25 of FIFRA, as amended, 7 U.S.C. 136 *et seq.*)~~

~~[44 FR 27953, May 11, 1979]~~

§ 162.10 Labeling requirements.

(a) *General*—(1) *Contents of the label.* Every pesticide products shall bear a label containing the information specified by the Act and the regulations in this Part. The contents of a label must show clearly and prominently the following:

(i) The name, brand, or trademark under which the product is sold as prescribed in paragraph (b) of this section;

(ii) The name and address of the producer, registrant, or person for whom produced as prescribed in paragraph (c) of this section;

(iii) The net contents as prescribed in paragraph (d) of this section;

(iv) The product registration number as prescribed in paragraph (e) of this section;

(v) The producing establishment number as prescribed in paragraph (f) of this section;

(vi) An ingredient statement as prescribed in paragraph (g) of this section;

(vii) Warning or precautionary statements as prescribed in paragraph (h) of this section;

(viii) The directions for use as prescribed in paragraph (i) of this section; and

(ix) The use classification(s) as prescribed in paragraph (j) of this section.

(2) *Prominence and legibility.* (i) All words, statements, graphic representations, designs or other information required on the labeling by the Act or the regulations in this part must be clearly legible to a person with normal vision, and must be placed with such conspicuousness (as compared with other words, statements, designs, or graphic matter on the labeling) and expressed in such terms as to render it likely to be read and understood by the ordinary individual under customary conditions of purchase and use.

(ii) All required label text must:

(A) Be set in 6-point or larger type;

(B) Appear on a clear contrasting background; and

(C) Not be obscured or crowded.

(3) *Language to be used.* All required label or labeling text shall appear in the English language. However, the Agency may require or the applicant may propose additional text in other languages as is considered necessary to protect the public. When additional text in another language is necessary, all labeling requirements will be applied equally to both the English and other-language versions of the labeling.

(4) *Placement of Label*—(i) *General.* The label shall appear on or be securely attached to the immediate container of the pesticide product. For purposes of this Section, and the misbranding provisions of the Act, "securely attached" shall mean that a label can reasonably be expected to remain affixed during the foreseeable conditions and period of use. If the immediate container is enclosed within a wrapper or outside container through which the label cannot be clearly read, the label must also be securely attached to such outside wrapper or container, if it is a part of the package as customarily distributed or sold.

(ii) *Tank cars and other bulk containers*—(A) *Transportation.* While a pesticide product is in transit, the appropriate provisions of 49 CFR Parts 170-189, concerning the transportation of hazardous materials, and specifically those provisions concerning the labeling, marking and placarding of hazardous materials and the vehicles carrying them, define the basic Federal requirements. In addition, when any registered pesticide product is transported in a tank car, tank truck or other mobile or portable bulk container, a copy of the accepted label must be attached to the shipping papers, and left with the consignee at the time of delivery.

(B) *Storage.* When pesticide products are stored in bulk containers, whether mobile or stationary, which remain in the custody of the user, a copy of the label of labeling, including all appropriate directions for use, shall be securely attached to the container in the immediate vicinity of the discharge control valve.

(5) *False or misleading statements.* Pursuant to section 2(q)(1)(A) of the Act, a pesticide or a device declared subject to the Act pursuant to § 162.15, is misbranded if its labeling is false or misleading in any particular including both pesticidal and non-pesticidal claims. Examples of statements or representations in the labeling which constitute misbranding include:

(i) A false or misleading statement concerning the composition of the product;

(ii) A false or misleading statement concerning the effectiveness of the product as a pesticide or device;

(iii) A false or misleading statement about the value of the product for purposes other than as a pesticide or device;

(iv) A false or misleading comparison with other pesticides or devices;

(v) Any statement directly or indirectly implying that the pesticide or device is recommended or endorsed by any agency of the Federal Government;

(vi) The name of a pesticide which contains two or more principal active ingredients if the name suggests one or more but not all such principal active ingredients even though the names of the other ingredients are stated elsewhere in the labeling;

(vii) A true statement used in such a way as to give a false or misleading impression to the purchaser;

(viii) Label disclaimers which negate or detract from labeling statements required under the Act and these regulations;

(ix) Claims as to the safety of the pesticide or its ingredients, including statements such as "safe," "nonpoisonous," "noninjurious," "harmless" or "nontoxic to humans and pets" with or without such a qualifying phrase as "when used as directed"; and

(x) Non-numerical and/or comparative statements on the safety of the product, including but not limited to:

(A) "Contains all natural ingredients";

(B) "Among the least toxic chemicals known"

(C) "Pollution approved"

(6) *Final printed labeling.* (i) Except as provided in paragraph (a)(6)(ii) of this section, final printed labeling must be submitted and accepted prior to registration. However, final printed labeling need not be submitted until draft label texts have been provisionally accepted by the Agency.

(ii) Clearly legible reproductions or photo reductions will be accepted for unusual labels such as those silk-screened directly onto glass or metal containers or large bag or drum labels. Such reproductions must be of microfilm reproduction quality.

(b) *Name, brand, or trademark.* (1) The name, brand, or trademark under which the pesticide product is sold shall appear on the front panel of the label.

(2) No name, brand, or trademark may appear on the label which:

(i) Is false or misleading, or

(ii) Has not been approved by the Administrator through registration or supplemental registration as an additional name pursuant to § 162.6(b)(4).

(c) Name and address of producer, registrant, or person for whom produced. An unqualified name and address given on the label shall be considered as the name and address of the producer. If the registrant's name appears on the label and the registrant is not the producer, or if the name of the person for whom the pesticide was produced appears on the label, it must be qualified by appropriate wording such as "Packed for * * *," "Distributed by * * *," or "Sold by * * *" to show that the name is not that of the producer.

(d) *Net weight or measure of contents.* (1) The net weight or measure of content shall be exclusive of wrappers or other materials and shall be the average content unless explicitly stated as a minimum quantity.

(2) If the pesticide is a liquid, the net content statement shall be in terms of liquid measure at 68° F (20°C) and shall be expressed in conventional American units of fluid ounces, pints, quarts, and gallons.

(3) If the pesticide is solid or semisolid, viscous or pressurized, or is a mixture of liquid and solid, the net content statement shall be in terms of weight expressed as avoirdupois pounds and ounces.

(4) In all cases, net content shall be stated in terms of the largest suitable units, i.e., "1 pound 10 ounces" rather than "26 ounces."

(5) In addition to the required units specified, net content may be expressed in metric units.

(6) Variation above minimum content or around an average is permissible only to the extent that it represents deviation unavoidable in good manufacturing practice. Variation below a stated minimum is not permitted. In no case shall the average content of the packages in a shipment fall below the stated average content.

(e) *Product registration number.* The registration number assigned to the pesticide product at the time of registration shall appear on the label, preceded by the phrase "EPA Registration No.," or the phrase "EPA Reg. No." The registration number shall be set in type of a size and style similar to other print on that part of the label on which it appears and shall run parallel to it. The registration number and the required identifying phrase shall not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency.

(f) *Producing establishments registration number.* The producing establishment registration number preceded by the phrase "EPA Est.", of the final establishment at which the product was produced may appear in any suitable location on the label or immediate container. It must appear on the wrapper or outside container of the package if the EPA establishment registration number on the immediate container cannot be clearly read through such wrapper or container.

(g) *Ingredient statement*—(1) *General.* The label of each pesticide product must bear a statement which contains the name and percentage by weight of each active ingredient, the total percentage by weight of all inert ingredients; and if the pesticide contains arsenic in any form, a statement of the percentages of total and water-soluble arsenic calculated as elemental arsenic. The active ingredients must be designated by the term "active ingredients" and the inert ingredients by the term "inert ingredients," or the singular forms of these terms when appropriate. Both terms shall be in the same type size, be aligned to the same margin and be equally prominent. The statement "Inert Ingredients, none" is not required for pesticides which contain 100 percent active ingredients. Unless the ingredient statement is a complete analysis of the pesticide, the term "analysis" shall not be used as a heading for the ingredient statement.

(2) *Position of ingredient statement.* (i) The ingredient statement is normally required on the front panel of the label. If there is an outside container or wrapper through which the ingredient statement cannot be clearly read, the ingredient statement must also appear on such outside container or wrapper. If the size or form of the package makes it impracticable to place the ingredient statement on the front panel of the label, permission may be granted for the ingredient statement to appear elsewhere.

(ii) The text of the ingredient statement must run parallel with other text on the panel on which it appears, and must be clearly distinguishable from and must not be placed in the body of other text.

(3) *Names to be used in ingredient statement.* The name used for each ingredient shall be the accepted common name, if there is one, followed by the chemical name. The common name may be used alone only if it is well known. If no common name has been established, the chemical name alone shall be used. In no case will the use of a trademark or proprietary name be permitted unless such name has been accepted as a common name by the Administrator under the authority of Section 25(c)(6).

(4) *Statements of percentages.* The percentages of ingredients shall be stated in terms of weight-to-weight. The sum of percentages of the active and the inert ingredients shall be 100. Percentages shall not be expressed by a range of values such as "22-25%." If the uses of the pesticide product are expressed as weight of active ingredient per unit area, a statement of the weight of active ingredient per unit volume of the pesticide formulation shall also appear in the ingredient statement.

(5) *Accuracy of stated percentages.* The percentages given shall be as precise as possible reflecting good manufacturing practice. If there may be unavoidable variation between manufacturing batches, the value stated for each active ingredient shall be the lowest percentage which may be present.

(6) *Deterioration.* Pesticides which change in chemical composition significantly must meet the following labeling requirements:

(i) In cases where it is determined that a pesticide formulation changes chemical composition significantly, the product must bear the following statement in a prominent position on the label: "Not for sale or use after [date]."

(ii) The product must meet all label claims up to the expiration time indicated on the label.

(7) *Inert ingredients.* The Administrator may require the name of any

inert ingredient(s) to be listed in the ingredient statement if he determines that such ingredient(s) may pose a hazard to man or the environment.

(h) *Warnings and precautionary statements.* Required warnings and precautionary statements concerning the general areas of toxicological hazard including hazard to children, environmental hazard, and physical or chemical hazard fall into two groups; those required on the front panel of the labeling and those which may appear elsewhere. Specific requirements concerning content, placement, type size, and prominence are given below.

(1) *Required front panel statements.* With the exception of the child hazard warning statement, the text required on the front panel of the label is determined by the Toxicity Category of the pesticide. The category is assigned on the basis of the highest hazard shown by any of the indicators in the table below:

Hazard indicators	Toxicity categories			
	I	II	III	IV
Oral LD$_{50}$	Up to and including 50 mg/kg.	From 50 thru 500 mg/kg	From 500 thru 5000 mg/kg.	Greater than 5000 mg/kg.
Inhalation LC$_{50}$	Up to and including .2 mg/liter.	From .2 thru 2 mg/liter	From 2. thru 20 mg/liter	Greater than 20 mg/liter.
Dermal LD$_{50}$	Up to and including 200 mg/kg.	From 200 thru 2000	From 2,000 thru 20,000	Greater than 20,000.
Eye effects	Corrosive; corneal opacity not reversible within 7 days.	Corneal opacity reversible within 7 days; irritation persisting for 7 days.	No corneal opacity; irritation reversible, within 7 days.	No irritation.
Skin effects	Corrosive	Severe irritation at 72 hours.	Moderate irritation at 72 hours.	Mild or slight irritation at 72 hours.

(i) *Human hazard signal word*—(A) *Toxicity Category I.* All pesticide products meeting the criteria of Toxicity Category I shall bear on the front panel the signal word "Danger." In addition if the product was assigned to Toxicity Category I on the basis of its oral, inhalation or dermal toxicity (as distinct from skin and eye local effects) the word "Poison" shall appear in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word "poison."

(B) *Toxicity Category II.* All pesticide products meeting the criteria of Toxicity Category II shall bear on the front panel the signal word "Warning."

(C) *Toxicity Category III.* All pesticide products meeting the criteria of Toxicity Category III shall bear on the front panel the signal word "Caution."

(D) *Toxicity Category IV.* All pesticide products meeting the criteria of Toxicity Category IV shall bear on the front panel the signal word "Caution."

(E) *Use of signal words.* Use of any signal word(s) associated with a higher Toxicity Category is not permitted except when the Agency determines that such labeling is necessary to prevent unreasonable adverse effects on man or the environment. In no case shall more than one human hazard signal word appear on the front panel of a label.

(ii) *Child hazard warning.* Every pesticide product label shall bear on the front panel the statement "keep out of reach of children." Only in cases where the likelihood of contact with children during distribution, marketing, storage or use is demonstrated by the applicant to be extremely remote, or if the nature of the pesticide is such that it is approved for use on infants or small children, may the Administrator waive this requirement.

(iii) *Statement of practical treatment*—(A) *Toxicity Category I.* A statement of practical treatment (first aid or other) shall appear on the front panel of the label of all pesticides falling into Toxicity Category I on the basis of oral, inhalation or dermal toxicity. The Agency may, however, permit reasonable variations in the placement of the statement of practical treatment is some reference such as "See statement of practical treatment on back panel" appears on the front panel near the word "Poison" and the skull and crossbones.

(B) *Other toxicity categories.* The statement of practical treatment is not required on the front panel except as described in paragraph (h)(1)(iii)(A) of this section. The applicant may, however, include such a front panel statement at his option. Statements of practical treatment are, however, required elsewhere on the label in accord with paragraph (h)(2) of this section if they do not appear on the front panel.

(iv) *Placement and prominence.* All the require front panel warning statements shall be grouped together on the label, and shall appear with sufficient prominence relative to other front panel text and graphic material to make them unlikely to be overlooked under customary conditions of purchase and use. The following table shows the minimum type size requirements for the front panel warning statements on various sizes of labels:

Size of label front panel in square inches	Points	
	Required signal word, all capitals	"Keep out of reach of Children
5 and under	6	6
Above 5 to 10	10	6
Above 10 to 15	12	8
Above 15 to 30	14	10
Over 30	18	12

(2) *Other required warnings and precautionary statements.* The warnings and precautionary statements as required below shall appear together on the label under the general heading "Precautionary Statements" and under appropriate subheadings of "Hazard to Humans and Domestic Animals," "Environmental Hazard" and "Physical or Chemical Hazard."

(i) *Hazard to humans and domestic animals.* (A) Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions to be taken to avoid accident, injury or damage. The precautionary paragraph shall be immediately preceded by the appropriate hazard signal word.

(B) The following table depicts typical precautionary statements. These statements must be modified or expanded to reflect specific hazards.

Toxicity category	Precautionary statements by toxicity category	
	Oral, inhalation, or dermal toxicity	Skin and eye local effects
I	Fatal (poisonous) if swallowed [inhaled or absorbed through skin]. Do not breathe vapor [dust or spray mist]. Do not get in eyes, on skin, or on clothing [Front panel statement of practical treatment required.].	Corrosive, causes eye and skin damage [or skin irritation]. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. [Appropriate first aid statement required.]
II	May be fatal if swallowed [inhaled or absorbed through the skin]. Do not breathe vapors [dust or spray mist]. Do not get in eyes, on skin, or on clothing. [Appropriate first aid statements required.].	Causes eye [and skin] irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. [Appropriate first aid statement required.]
III	Harmful if swallowed [inhaled or absorbed through the skin]. Avoid breathing vapors [dust or spray mist]. Avoid contact with skin [eyes or clothing]. [Appropriate first aid statement required.].	Avoid contact with skin, eyes or clothing. In case of contact immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.
IV	[No precautionary statements required.]	[No precautionary statements required.]

(ii) *Environmental hazards.* Where a hazard exists to non target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury or damage. Examples of the hazard statements and the circumstances under which they are required follow:

(A) If a pesticide intended for outdoor use contains an active ingredient with a mammalian acute oral LD_{50} of 100 or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(B) If a pesticide intended for outdoor use contains an active ingredient with a fish acute LC_{50} of 1 ppm or less, the statement "This Pesticide is Toxic to Fish" is required.

(C) If a pesticide intended for outdoor use contains an active ingredient with an avian acute oral LD_{50} of 100 mg/kg or less, or a subacute dietary LC_{50} of 500 ppm or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(D) If either accident history or field studies demonstrate that use of the pesticide may result in fatality to birds, fish or mammals, the statement "This pesticide is extremely toxic to wildlife (fish)" is required.

(E) For uses involving foliar application to agricultural crops, forests, or shade trees, or for mosquito abatement treatments, pesticides toxic to pollinating insects must bear appropriate label cautions.

(F) For all outdoor uses other than aquatic applications the label must bear the caution "Keep out of lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes."

(iii) *Physical or chemical hazards.* Warning statements on the flammability or explosive characteristics of the pesticide are required as follows:

Flash point	Required text
(A) PRESSURIZED CONTAINERS	
Flash point at or below 20° F; if there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
Flash point above 20° F and not over 80° F or if the flame extension is more than 18 in long at a distance of 6 in from the flame.	Flammable. Contents under pressure. Keep away from heat, sparks, and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
All other pressurized containers	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
(B) NONPRESSURIZED CONTAINERS	
At or below 20° F	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
Above 20° F and not over 80° F	Flammable. Keep away from heat and open flame.
Above 80° F and not over 150° F	Do not use or store near heat or open flame.

(i) *Directions for Use*—(1) *General requirements*—(i) *Adequacy and clarity of directions.* Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment.

(ii) *Placement of directions for use.* Directions may appear on any portion of the label provided that they are conspicuous enough to be easily read by the user of the pesticide product. Directions for use may appear on printed or graphic matter which accompanies the pesticide provided that:

(A) If required by the Agency, such printed or graphic matter is securely attached to each package of the pesticide, or placed within the outside wrapper or bag;

(B) The label bears a reference to the directions for use in accompanying leaflets or circulars, such as "See directions in the enclosed circular:" and

(C) The Administrator determines that it is not necessary for such directions to appear on the label.

(iii) *Exceptions to requirement for direction for use*—(A) Detailed directions for use may be omitted from labeling of pesticides which are intended for use only by manufacturers of products other than pesticide products in their regular manufacturing processes, provided that:

(*1*) The label clearly shows that the product is intended for use only in manufacturing processes and specifies the type(s) of products involved.

(*2*) Adequate information such as technical data sheets or bulletins, is available to the trade specifying the type of product involved and its proper use in manufacturing processes;

(*3*) The product will not come into the hands of the general public except after incorporation into finished products; and

(*4*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(B) Detailed directions for use may be omitted from the labeling of pesticide products for which sale is limited to physicians, veterinarians, or druggists, provided that:

(*1*) The label clearly states that the product is for use only by physicians or veterinarians;

(*2*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment; and

(*3*) The product is also a drug and regulated under the provisions of the Federal Food, Drug and Cosmetic Act.

(C) Detailed directions for use may be omitted from the labeling of pesticide products which are intended for use only by formulators in preparing pesticides for sale to the public, provided that:

(*1*) There is information readily available to the formulators on the composition, toxicity, methods of use, applicable restrictions or limitations, and effectiveness of the product for pesticide purposes;

(*2*) The label clearly states that the product is intended for use only in manufacturing, formulating, mixing, or repacking for use as a pesticide and specifies the type(s) of pesticide products involved;

(*3*) The product as finally manufactured, formulated, mixed, or repackaged is registered; and

(*4*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(2) *Contents of Directions for Use.* The directions for use shall include the following, under the headings "Directions for Use":

(i) The statement of use classification as prescribed in 162.10(j) immediately under the heading "Directions for Use."

(ii) Immediately below the statement of use classification, the statement "It is a violation of Federal law to use this product in a manner inconsistent with its labeling."

(iii) The site(s) of application, as for example the crops, animals, areas, or objects to be treated.

(iv) The target pest(s) associated with each site.

(v) The dosage rate associated with each site and pest.

(vi) The method of application, including instructions for dilution, if required, and type(s) of application apparatus or equipment required.

(vii) The frequency and timing of applications necessary to obtain effective results without causing unreasonable adverse effects on the environment.

(viii) Specific limitations on reentry to areas where the pesticide has been applied, meeting the requirements concerning reentry provided by 40 CFR Part 170.

(ix) Specific directions concerning the storage and disposal of the pesticide and its container, meeting the requirements of 40 CFR Part 165. These instructions shall be grouped and appear under the heading "Storage and Disposal." This heading must be set in type of the same minimum sizes as required for the child hazard warning (See Table in § 162.10(h)(1)(iv).)

(x) Any limitations or restrictions on use required to prevent unreasonable adverse effects, such as:

(A) Required intervals between application and harvest of food or feed crops.

(B) Rotational crop restrictions.

(C) Warnings as required against use on certain crops, animals, objects, or in or adjacent to certain areas.

(D) [Reserved]

(E) For restricted use pesticides, a statement that the pesticide may be applied under the direct supervision of a certified applicator who is not physically present at the site of application but nonetheless available to the person applying the pesticide, unless the Agency has determined that the pesticide may only be applied under the direct supervision of a certified applicator who is physically present.

(F) Other pertinent information which the Administrator determines to be necessary for the protection of man and the environment.

(j) *Statement of Use Classification.* By October 22, 1976, all pesticide products must bear on their labels a statement of use classification as described in paragraphs (j)(1) and (2) of this section. Any pesticide product for which some uses are classified for general use and others for restricted use shall be separately labeled according to the labeling standards set forth in this subsection, and shall be marketed as separate products with different registration numbers, one bearing directions only for general use(s) and the other bearing directions for restricted use(s) except that, if a product has both restricted use(s) and general use(s), both of these uses may appear on a product labeled for restricted use. Such products shall be subject to the provisions of § 162.10(j)(2).

(1) *General Use Classification.* Pesticide products bearing directions for use(s) classified general shall be labeled with the exact words "General Classification" immediately below the heading "Directions for Use." And reference to the general classification that suggests or implies that the general utility of the pesticide extends beyond those purposes and uses contained in the Directions for Use will be considered a false or misleading statement under the statutory definitions of misbranding.

(2) *Restricted Use Classification.* Pesticide products bearing direction for use(s) classified restricted shall bear statements of restricted use classification on the front panel as described below:

(i) *Front panel statement of restricted use classification.* (A) At the top of the front panel of the label, set in type of the same minimum sizes as required for human hazard signal words (see table in § 162.10(h)(1)(iv)), and appearing with sufficient prominence relative to other text and graphic material on the front panel to make it unlikely to be overlooked under customary conditions of purchase and use, the statement "Restricted Use Pesticide" shall appear.

(B) Directly below this statement on the front panel, a summary statement of the terms of restriction imposed as a precondition to registration shall appear. If use is restricted to certified applicators, the following statement is required: "For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification." If, however, other regulatory restrictions are imposed, the Administrator will define the appropriate wording for the terms of restriction by regulation.

(k) Advertising. [Reserved]

[40 FR 28268, July 3, 1975; 40 FR 32329, Aug. 1, 1975; 40 FR 36571, Aug. 21, 1975, as amended at 43 FR 5786, Feb. 9, 1978]

~~**§ 162.11 Criteria for determinations of unreasonable adverse effects.**~~

~~(a) *Criteria for Issuance of Notice of Intent to Deny Registration, Cancel Registration, or to Hold a Hearing*—(1) *Presumption.* (i) A rebuttable presumption shall arise that a notice of intent to deny registration pursuant to section 3(c)(6) of the Act, a notice of intent to cancel registration pursuant to section 6(b)(1) of the Act, or a notice of intent to hold a hearing to determine whether the registration should be cancelled or denied, as appropriate, shall be issued, upon a determination by the Administrator that the pesticide meets or exceeds any of the criteria for risk set forth in paragraph (a)(3) of this section. Upon such determination, the Administrator shall issue notice by certified mail to the applicant or registrant, as the case may be, stating that the applicant or registrant has the opportunity to submit evidence in rebuttal of such presumption in accordance with paragraph (a)(4) of this section. The applicant or registrant shall have forty-five~~

APPENDIX IV-2

LABELING REQUIREMENTS OF THE FIFRA, AS AMENDED (REFER TO THE SAMPLE LABELS FOLLOWING)

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
1	Product name	All products	Front panel	Center front panel	
2	Company name and address	All products	None	Bottom front panel or end of label text	If registrant is not the producer, must be qualified by "Packed for . . .," "Distributed by. . .," etc.
3	Net contents	All products	None	Bottom front panel or end of label text	May be in metric units in addition to U.S. units
4	EPA Est. No.	All products	None	Front panel	Must be in similar type size and run parallel to other type.
5	EPA Reg. No.	All products	None	Front panel, immediately before or following Reg. No.	May appear on the container instead of the label.
6A	Ingredients statement	All products	Front panel	Immediately following product name	Text must run parallel with other text on the panel.
6B	Pounds/gallon statement	Liquid products where dosage given as lbs. ai/unit area	Front panel	Directly below the main ingredients statement	
7	Front panel precautionary statements	All products	Front panel		All front panel precautionary statements must be grouped together, preferably blocked.
7A	Keep Out of Reach of Children (Child hazard warning)	All products	Front panel	Above signal word	Note type size requirements.
7B	Signal word	All products	Front panel	Immediately below child hazard warning	Note type size requirements.

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL REQUIRED	PLACEMENT ON LABEL PREFERRED	COMMENTS
7C	Skull & crossbones and word POISON (in red)	All products which are Category I based on oral, dermal, or inhalation toxicity	Front panel	Both in close proximity to signal word	
7D	Statement of practical treatment	All products in Categories I, II, and III	Category I: Front panel unless referral statement is used. Others: Grouped with side panel precautionary statements.	Front panel for all.	
7E	Referral statement	All products where precautionary labeling appears on other than front panel.	Front panel		
8	Side/back panel precautionary statements	All products	None	Top or side of back panel preceding directions for use	Must be grouped under the headings in 8A, 8B, and 8C; preferably blocked.
8A	Hazards to humans and domestic animals	All products in Categories I, II, and III	None	Same as above	Must be preceded by appropriate signal word.
8B	Environmental hazards	All products	None	Same as above	Environmental hazards include bee caution where applicable.

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
8C	Physical or chemical hazards	All pressurized products, others with flash points under 150°F	None	Same as above	
9A	Restricted block	All restricted products	Top center of front panel	Preferably blocked	Includes a statement of the terms of restriction. The words "RESTRICTED USE PESTICIDE" must be same type size as signal word.
9C	Misuse statement	All products	Immediately following statement of classification or ahead of directions for use		
10A	Re-entry statement	All cholinesterase inhibitors	In the directions for use	Immediately after misuse statement	
10C	Storage and disposal block	All products	In the directions for use	Immediately before specific directions for use or at the end of directions for use	Must be set apart and clearly distinguishable from from other directions for use.
10D U.S.	Directions for use	All products	None	None	May be in metric as well as U.S. units

Appendix IV-3

PHYSICAL-CHEMICAL HAZARDS

Criteria	Required Label Statement
I. Pressurized Containers	
A. Flashpoint at or below 20°F; or if there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
B. Flashpoint above 20°F and not over 80°F; or if the flame extension is more than 18 inches long at a distance of 6 inches from the valve opening.	Flammable. Contents under pressure. Keep away from heat, sparks, and flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
C. ALL OTHER PRESSURIZED CONTAINERS	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
II. Non-Pressurized Containers	
A. Flashpoint at or below 20°F.	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
B. Flashpoint above 20°F and over 80°F.	Flammable. Keep away from heat and open flame.
C. Flashpoint over 80°F and not over 150°F.	Do not use or store near heat and open flame.
D. Flashpoint above 150°F.	None required.

STORAGE AND DISPOSAL INSTRUCTIONS FOR PESTICIDES

All products are required to bear specific label instructions about storage and disposal. Storage and disposal instructions must be grouped together in the directions for use portion of the label under the heading STORAGE AND DISPOSAL. Products intended solely for domestic use need not include the heading "STORAGE AND DISPOSAL." The STORAGE AND DISPOSAL heading must appear in the minimum type size listed below:

Size of label front panel in square inches	Required type size for the heading STORAGE AND DISPOSAL (all capitals)
10 and under	6 point
Above 10 to 15	8 point
Above 15 to 30	10 point
Over 30	12 point

Storage and disposal instructions must be set apart and clearly distinguishable from other directions for use. Blocking storage and disposal statements with a solid line is suggested as a means of increasing their prominence.

A. Storage Instructions:

All product labels are required to have appropriate storage instructions. Specific storage instructions are not prescribed. Each registrant must develop his own storage instructions, considering, when applicable, the following factors:

1. Conditions of storage that might alter the composition or usefulness of the pesticide. Examples could be temperature extremes, excessive moisture or humidity, heat, sunlight, friction, or contaminating substances or media.

2. Physical requirements of storage which might adversely affect the container of the product and its ability to continue to function properly. Requirements might include positioning of the container in storage, storage or damage due to stacking, penetration of moisture, and ability to withstand shock or friction.

3. Specifications for handling the pesticide container, including movement of container within the storage area, proper opening and closing procedures (particularly for opened containers), and measures to minimize exposure while opening or closing container.

4. Instructions on what to do if the container is damaged in any way, or if the pesticide is leaking or has been spilled, and precautions to minimize exposure if damage occurs.

5. General precautions concerning locked storage, storage in original container only, and separation of pesticides during storage to prevent cross-contamination of other pesticides, fertilizer, food, and feed.

6. General storage instructions for household products should emphasize storage in original container and placement in locked storage areas.

B. Pesticide Disposal Instructions:

The label of all products, except those intended solely for domestic use, must bear explicit instructions about pesticide disposal. The statements listed below contain the exact wording that must appear on the label of these products:

1. The labels of all products, except domestic use, must contain the statement, "Do not contaminate water, food, or feed by storage or disposal."

2. Except those products intended solely for domestic use, the labels of all products that contain active ingredients appearing on the "Acutely Hazardous" Commercial Pesticide Products List (RCRA "E" List) at the end of this appendix or are assigned to Toxicity Category I on the basis of oral or dermal toxicity, skin or eye irritation potential, or Toxicity Category I or II on the basis of acute inhalation toxicity must bear the following pesticide disposal statement:

   "Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

   The labels of all products, except those intended for domestic use, containing active or inert ingredients that appear on the "Toxic" Commercial Pesticide Products List (RCRA "F" List) at the end of this appendix or presently meet any of the criteria in Subpart C, 40 CFR 261 for a hazardous waste must bear the following pesticide disposal statement:

"Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

Labels for all other products, except those intended for domestic use, must bear the following pesticide disposal statement:

"Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility."

3. Products intended for domestic use only must bear the following disposal statement: "Securely wrap original container in several layers of newspaper and discard in trash."

C. Container Disposal Instructions

The label of each product must bear container disposal instructions appropriate to the type of container.

1. All products intended for domestic use must bear one of the following container disposal statements:

Container Type	Statement
Non-aerosol products (bottles, cans, jars)	Do not reuse container (bottle, can, jar). Rinse thoroughly before discarding in trash.
Non-aerosol products (bags)	Do not reuse bag. Discard bag in trash.
Aerosol products	Replace cap and discard containers in trash. Do not incinerate or puncture.

2. The labels for all other products must bear container disposal instructions, based on container type, listed below:

Container Type	Statement
Metal containers (non-aerosol)	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.
Plastic containers	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
Glass containers	Triple rinse (or equivalent). Then dispose of in a sanitary landfill or by other approved state and local procedures.

Container Type	Statement
Fiber drums with liners	Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by state and local authorities. If drum is contaminated and cannot be reused[1], dispose of in the same manner.
Paper and plastic bags	Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.
Compressed gas cylinders	Return empty cylinder for reuse (or similar wording).

[1] Manufacturer may replace this phrase with one indicating whether and how fiber drum may be reused.

2. The labels for all other products must bear container disposal instructions, based on container type, listed on the first page of this Appendix.

Pesticides that are hazardous wastes under 40 CFR 261.33(e) and (f) when discarded.

"Acutely Hazardous" Commercial Pesticides (RCRA "E" List) Active Ingredients, (no inerts):

Acrolein
Aldicarb
Aldrin
Allyl alcohol
Aluminum phosphide
4-Aminopyridine
Arsenic acid
Arsenic pentoxide
Arsenic trioxide
Calcium cyanide
Carbon disulfide
p-Chloroaniline
Cyanides (soluble cyanide salts, not specified elsewere)
Cyanogen chloride
2-Cyclohexyl-4,6-dinitrophenol
Dieldrin
0,0-Diethyl S-[2-ethylthio)ethyl] phosphorodithioate
    (disulfoton, Di-Syston)
0,0-Diethyl 0-pyrazinyl phosphorothioate (Zinophos)
Dimethoate
0,0-Dimethyl 0-p-nitrophenyl phosphorothioate (methyl parathion)
4,6-Dinitro-o-cresol and salts
4,6-Dinitro-o-cyclohexylphenol
2,4 Dinitrophenol
Dinoseb
Endosulfan
Endothall
Endrin
Famphur
Fluoroacetamide
Heptachlor
Hexanethyl tetraphosphate
Hydrocyanic acid
Hydrogen cyanide
Methomyl
alpha-Naphthylthiourea (ANTU)
Nicotine and salts
Octamethylpyrophosphoramide (OMPA, schradan)
Parathion

"Acutely Hazardous" Commercial Pesticides (RCRA "E" List) Active Ingredients continued:

Phenylmercuric acetate (PMA)
Phorate
Potassium cyanide
Propargyl alcohol
Sodium azide
Sodium cyanide
Sodium fluoroacetate
Strychnine and salts
0,0,0,0-Tetraethyl dithiopyrophosphate (sulfotepp)
Tetraethyl pyrophosphate
Thallium sulfate
Thiofanox
Toxaphene
Warfarin
Zinc phosphide

There are currently no inert ingredients for commercial pesticides on the "Acutely Hazardous" List (RCRA "E" List).

"Toxic" Commercial Pesticide Products (RCRA "F" List) Active Ingredients:

Acetone
Acrylonitrile
Amitrole
Benzene
Bis(2-ethylhexyl)pthalate
Cacodylic acid
Carbon tetrachloride
Chloral (hydrate)
Chlordane (technical)
Chlorobenzene
4-Chloro-m-cresol
Chloroform
o-Chlorophenol
4-Chloro-o-toluidine hydrochloride
Creosote
Cresylic acid
Cyclohexane
Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]-pentalen-2-one
    (kepone, chlordecone)
1,2-Dibromo-3-chloropropane (DBCP)
Dibutyl phthalate
S-3,3-(Dichloroallyl diisopropylthiocarbamate (diallate, Avadex)
o-Dichlorobenzene
p-Dichlorobenzene
Dichlorodifluoromethane (Freon 12®)
3,5-Dichloro-N-(1,1-dimethyl-2-propynyl) benzamide (pronamide,Kerb)
Dichloro diphenyl dichloroethane (DDD)
Dichloro diphenyl trichloroethane (DDT)
Dichlorethyl ether
2,4-Dichlorophenoxyacetic, esters and salts (2,4-D)
1,2-Dichloropropane
1,3-Dichloropropane (Telone)
Dimethyl phthalate
Ethyl acetate
Ethyl 4,4'-dichlorobenzilate (chlorobenzilate)
Ethylene dibromide (EDB)
Ethylene dichloride
Ethylene oxide
Formaldehyde
Furfural
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloroethane
Hydrofluoric acid

"Toxic" Commercial Pesticide Products (RCRA "F" List)
Active Ingredients:

Isobutyl alcohol
Lead acetate
Lindane
Maleic hydrazide
Mercury
Methyl alcohol
Methyl bromide
Methyl chloride
2,2'-Methylenebis (3,4,6-trichlorophenol) (hexachlorophene)
Methylene chloride
Methyl ethyl ketone
4-Methyl-2-pentanone (methyl isobutyl ketone)
Naphthalene
Nitrobenzene
p-Nitrophenol
Pentachloroethane
Pentachloronitrobenzene (PCNB)
Pentaclorophenol
Phenol
Phosphorodithioic acid, 0,0-diethyl, methyl ester
Propylene dichloride
Pyridine
Resorcinol
Safrole
Selenium disulfide
Silvex
1,2,4,5-Tetrachlorobenzene
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
2,3,4,6-Tetrachlorophenol
Thiram
Toluene
1,1,1-Trichloroethane
Trichloroethylene
Trichloromonofluoromethane (Freon 11®)
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)
Xylene

Appendix IV-5
(continued)

"Toxic" Commercial Pesticide Products (RCRA "F" List) Inert Ingredients:

Acetone
Acetonitrile
Acetophenone
Acrylic acid
Aniline
Benzene
Chlorobenzene
Chloroform
Cyclohexane
Cyclohexanone
Dichlorodifluoromethane (Freon 12®)
Diethyl phthalate
Dimethylamine
Dimethyl phthalate
1,4-Dioxane
Ethylene oxide
Formaldehyde
Formic acid
Isobutyl alcohol
Meleic anhydride
Methyl alcohol (methanol)
Methyl ethyl ketone
Methyl methacrylate
Naphthalene
Saccharin and salts
Thiourea
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichlorofluoromethane (Freon 11
Vinyl chloride
Xylene

c098301

ALDICARB*

TYPE PESTICIDE: Insecticide, Acaricide (also refer to Nematicide entry)

FORMULATIONS: G (5%, 10%, 15%)

GENERAL WARNINGS AND LIMITATIONS: RESTRICTED USE PESTICIDE
Do not apply in Suffolk County, Long Island, NY.
Avoid use in well draining soils, particularly in areas having shallow and unconfined aquifers, and a total precipitation and/or irrigation recharge greater than 10 inches per year.

The use of aldicarb may pose a hazard to the Federally designated endangered/threatened species known to be found in certain areas within named locations.

Attwater's Greater Prairie Chicken - TX counties including Aransas, Austin, Brazoria, Colorado, Galveston, Goliad, Harris, Refugio, and Victoria

Aldicarb may not be used in areas where adverse impact on the Federally designated endangered/threatened species noted above is likely. Prior to making applications, the user of aldicarb must determine that no such species are located in or immediately adjacent to the area to be treated. If the user is in doubt whether or not the above endangeres species may be affected, he should contact either the regional U.S. Fish and Wildlife Service Office (Endangered Species Specialist) or personnel of the State Fish and Game Office.

Agricultural Crop Tolerances:
Bananas - 0.3 ppm
Coffee Beans - 0.1 ppm
Sugarcane - 0.02 ppm
Sugarcane (forage and fodder) - 0.1 ppm
Sweet Potatoes - 0.1 ppm

Livestock Tolerances:
Cattle (fat, meat, meat byproducts) - 0.01 ppm
Goats (fat, meat, meat byproducts) - 0.01 ppm
Hogs (fat, meat, meat byproducts) - 0.01 ppm
Horses (fat, meat, meat byproducts) - 0.01 ppm
Milk - 0.002 ppm
Sheep (fat, meat, meat byproducts) - 0.01 ppm

Definition of Terms:
Claims for pest control limited to suppression of populations are indicated by parenthesized pest name.

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*Temik
2-methyl-2-(methylthio)propionaldehyde 0-(methylcarbamoyl)oxime

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations

AGRICULTURAL CROPS

General Warnings and Limitations: Do not plant any crop other than those with registered aldicarb uses in aldicarb treated soil. Do not allow livestock to graze treated areas before harvest. Do not store or use in or around the home or home garden. Aldicarb is not effective if used with alkaline materials such as lime. Use high rate on heavy organic or clay soils. Applications in excess of 0.75 pound (actual) per acre of 5 per cent granular formulation or 1 pound (actual) per acre of 10 to 15 per cent granular formulations made directly to seed furrow of beans (dried-type), cotton, soybeans, and sugar beets may delay emergence and reduce plant stand. Make side-dress applications close enough to plants to allow good uptake by roots without injury to the plants from root pruning. In irrigated areas, follow application with irrigation within 7 days. If alternate furrows are irrigated after side-dress application, the aldicarb and water must be on the same side of the plant row. To provide maximum performance and minimize hazards to birds, incorporate granules into or cover with soil to a depth of 2 inches or more. Deep disc any spills at row ends.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/15001AA	Beans, Dried-type		0.1 ppm 90 day preharvest interval through 2.3 ounces per 1,000 feet of row for soil application. Do not make more than 1 application per crop. Do not harvest green pods for human consumption. Do not feed green forage, hay, or straw to livestock.
IRACAAA	Aphids	0.8-1.1 oz/ 1,000 ft row (with 30-48 in. row spacing) (10-15% G)	Soil application at planting. Drill granules 2 to 3 inches below seed line or 2 to 3 inches to side of seed row and 2 to 3 inches deep. Granules may be placed in seed furrow if rate does not exceed 0.75 pound active ingredient per acre.
IRAFAAA INAPAFA ILAAABA	Leafhoppers Mexican bean beetle Mites	1.1-2.3 oz/ 1,000 ft row (with 30-48 in. row spacing) (10-15% G)	

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Beans, Dried-type (continued)		
IOACAAA	Seedcorn maggot	0.5-0.75 lb/A or 0.6-0.8 oz/ 1,000 ft row (with 36 in. row spacing) (15% G)	Use limited to NY. Soil application at planting. Apply granules in seed furrow and cover with soil.
/28007AA	Cotton		0.1 ppm (cottonseed) 0.3 ppm (cottonseed hulls) 90 day preharvest interval through 3 pounds per acre (with 40 inch row spacing) for soil application. Do not make more than 1 at planting application and 1 postemergence application per crop.
IRACAAA IMOAAAA	Aphids Thrips	0.3-0.5 lb/A or 0.4-0.7 oz/ 1,000 ft row (with 40 in. row spacing) (5-15% G)	Soil application at planting. Drill granules just below seed line or place in seed furrow and cover with soil. For hill-dropped seed, reduce dosage by one-half. May be formulated with pentachloronitrobenzene and 5-ethoxy-3-(trichloromethyl)-1,2,4-thiadiazole.
INASAHJ IQAMBDA IMAAAGA ILAAABA IQAMAAA	Boll weevil (overwintering adults) Fleahoppers Leafminers Mites Plant bugs (including lygus bugs)	0.6-1 lb/A or 0.8-1.3 oz/ 1,000 ft row (with 40 in. row spacing) (5-15% G)	
IQAMBDA IRAFAAA	Fleahoppers Leafhoppers	1-2 lb/A or 1.2-2.6 oz/ 1,000 ft row (with 40 in. row spacing) (10-15% G)	Soil application at first squaring. Side-dress granules 8 to 16 inches to 1 side of the plant row and 2 to 6 inches deep, usually at or below bottom of water furrow.
INASAAA ILAAABA IQAMAAA	Boll weevil Mites Plant bugs (including lygus bugs)	2-3 lb/A or 2.4-3.7 oz/ 1,000 ft row (with 40 in. row spacing) (10-15% G)	

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Cotton (continued)		
ITAYAHA	Cotton leaf-perforator	2-2.1 lb/A or 2.4-2.6 oz/ 1,000 ft row (with 40 in. row spacing) (10-15% G)	Soil application from squaring through early bloom. Side-dress granules 8 to 16 inches to 1 side of the plant row and 2 to 6 inches deep, usually at or below bottom of water furrow.
IRABAAA	Whiteflies	2-3 lb/A or 2.4-3.7 oz/ 1,000 ft row (with 40 in. row spacing) (10-15% G)	
/02002AA /02004AA /02005AA	Grapefruit Lemon Lime		0.3 ppm 0.6 ppm (citrus pulp, dried) 30 day preharvest interval through 10 pounds per acre for soil application for lemon. Do not make more than 1 application per year.
IRACAAA ILAVARA ILAJBCA ILAVAKA	Aphids Citrus red mite Citrus rust mite Texas citrus mite	5-10 lb/A (with 18-25 ft row spacing) (15% G)	Soil application. Apply just prior to or during spring flush of foliage growth. Apply in a band along dripline on both sides of tree row by spreading granules uniformly and immediately working into soil (preferred method) or shank 2 to 3 inches deep using 4 to 6 shanks on 12 inch centers. Band width should equal one fourth tree row spacing. Thoroughly irrigate immediately after application. May also be applied in irrigation furrows using 2 shanks per furrow.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/02006AA	Orange		0.3 ppm 0.6 ppm (citrus pulp, dried) Soil application through 10 pounds per acre. Do not make more than 1 application per year.
IRACAAA ILAVARA ILAJBCA	Aphids Citrus red mite Citrus rust mite	5-10 lb/A (with 18-25 ft row spacing) (10-15% G)	Soil application. Apply just prior to or during spring flush of foliage growth. Apply in a band along dripline on both sides of tree row by spreading granules uniformly and immediately working into soil (preferred method) or shank 2 to 3 inches deep using 4 to 6 shanks on 12 inch centers. Band width should equal one fourth tree row spacing. Thoroughly irrigate immediately after application. May also be applied in irrigation furrows using 2 shanks per furrow.
/27007AA /15006AA	Peanuts		0.05 ppm (peanuts) 0.5 ppm (peanut hulls) 90 day preharvest interval through 2.1 pounds per acre (with 36 inch row spacing) for soil application. Do not make more than 1 application per crop. Do not feed or allow livestock to graze on treated hay or vines.
IMOAAAA	Thrips	1-2.1 lb/A or 1.1-2.3 oz/ 1,000 ft row (with 36 in. row spacing) (10-15% G)	Soil application at planting. Apply granules in seed furrow and cover with soil. In the Southwest, apply high rate only.

ALDICARB

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/03008AA	Pecan		0.5 ppm Soil application through 10 pounds per acre. Do not make more than 1 application per year. Do not harvest foliage or hay from treated areas.
IRACAAA ILAAABA IRAVAIA	Aphids Mites (Pecan leaf phylloxera)	5-10 lb/A (10-15% G)	Use limited to Southeastern United States. Soil application (band). Apply during period from bud break to nut set (approximately April 15 to May 15). For pecan leaf phylloxera, apply 7 to 14 days before bud break. Apply as a 4 to 6 foot band along dripline on both sides of tree row by spreading granules uniformly and immediately working into soil or by shanking 2 to 3 inches into soil on 12 inch centers.
/03008DA	Pecan (nonbearing transplants 1 to 5 years old)		0.5 ppm
IRACAAA ILAAABA ITBGATA IRAVAIA	Aphids Mites Pecan bud moth (Pecan leaf phylloxera)	0.8-3.2 oz/tree (10-15% G)	Use limited to Southeastern United States. Soil application. Apply during period of bud break (approximately April 15 to May 15). For pecan bud moth and pecan leaf phylloxera, apply 7 to 14 days before bud break. Apply as a side-dress to individual trees row by spreading granules uniformly around the tree and immediately working into soil to a depth of 2 to 3 inches.

ALDICARB

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/14013AA	Potato		1 ppm 90 day preharvest interval through 3 pounds per acre (with 34 inch row spacing) for soil application at planting. 50 day preharvest interval through 3 pounds per acre (with 34 inch row spacing) for postemergence soil application. Do not make more than 1 application per crop.
IRACAAA	Aphids	1 lb/A or 1.05 oz/1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to ME. Postemergent soil application. Apply granules in 4 to 6 inch band over row on the top of hill at emergence. Do not apply more than once every 2 years.
IRACAAA INAMCEA IRAFAAA	Aphids Colorado potato beetle Leafhoppers	2-3 lb/A or 2.1-3.1 oz/ 1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to areas other the states and counties listed in paragraph below. Soil application at planting. Apply granules with seed pieces in planting furrow and cover with soil of drill granules 2 to 4 inches on both sides of seed row and 3 to 8 inches deep, usually 1 to 2 inches below seed pieces.
		2-2.1 lb/A or 2.1-2.2 oz/ 1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to ME and WI and the counties of: Hartford CT Kent and New Castle DE Franklin and Hampshire MA Worchester MD Atlantic, Burlington, Cumberland, Monmouth and Salem NJ Newport and Washington RI Accomack and Northampton VA. Postemergent soil application. Apply granules in 4 to 6 inch band over row on top of hill at emergence. Cover granules with soil by cultivators or hilling discs. Do not apply more than once every 2 years.

ALDICARB

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Potato (continued)		
IRACAAA INAMCEA	Aphids Colorado potato beetle	2-3 lb/A or 2.1-3.2 oz/ 1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to areas other than the states and counties listed in above paragraph. Postemergent soil application. Apply at 75 percent emergence or before plants are 6 inches high up to 42 days after emergence. Side-dress granules 4 to 5 inches on both sides of plant row and 4 inches deep. Apply where pest populations are expected 14 to 21 days after plant emergence. Do not apply if an at planting application was made.
INAMADA	Flea beetles	3 lb/A or 3.1 oz/1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to areas other than the states and counties listed above. Soil application at planting. Apply granules with seed pieces in planting furrow and cover with soil.
IRAXAAA	Psyllids	2-2.1 lb/A or 2.1-2.2 oz/ 1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to AZ. Soil application at planting. Apply granules with seed pieces in planting furrow and cover with soil or drill granules 2 to 4 inches on both sides of seed row and 3 to 8 inches deep, usually 1 to 2 inches below seed pieces.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28019AA	Sorghum		0.5 ppm (fodder, bran) 0.2 ppm (grain) 90 day preharvest interval through 1 pound per acre (with 36 inch row spacing) for soil application. The use of aldicarb may pose a hazard to the following Federally designated endangered/threatened species known to be found in certain areas within named locations. Attwater's Greater Prairie Chicken - TX counties including Aransas, Austin, Brazoria, Colorado, Galveston, Goliad, Harris, Refugio, and Victoria. Aldicarb may not be used in areas where adverse impact on the Federally designated endangered/threatened species noted above is likely. Prior to making applications, the user of aldicarb must determine that no such species are located in or immediately adjacent to the area to be treated. If the user is in doubt whether or not the above endangered species may be affected, he should contact either the regional U.S. Fish and Wildlife Service Office (Endangered Species Specialist) or personnel of the State Fish and Game Office. Do not make more than 1 application per year. Do not feed green forage to livestock.
IQALAEA IRACDNA	(Chinch bug) (Greenbug)	1 lb/A or 1.1 oz/1,000 ft row (with 36 in. row spacing) (10-15% G)	Soil application at planting. Apply in seed furrow and cover with soil.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28023AA	Soybeans		0.02 ppm 90 day preharvest interval through 1.7 oz per 1,000 feet of row for soil application. Do not make more than 1 application per crop. Do not feed green forage, hay, or straw to livestock.
INAPAFA	Mexican bean beetle	0.8-1.65 oz/ 1,000 ft row (with 30-48 in. row spacing) (10-15% G)	Soil application at planting. Drill granules 2 to 3 inches below seed line or 2 to 3 inches to side of seed row and 2 to 3 inches deep.
/28020AA	Sugar Beets		0.05 ppm (roots) 1 ppm (tops) 90 day preharvest interval through 3 pounds per acre (with 22 inch row spacing) for soil application. 120 day preharvest interval through 3 pounds per acre for soil application if tops are to be fed to livestock. Do not harvest tops for human consumption. Do not exceed a total of 6 pounds per acre, including an at planting application. Do not make more than 1 at planting application and 2 postemergence applications per crop. Do not make any postemergence applications if a preemergence application of 4 to 5 pounds per acre for nematode control is made.
IRACAAA	Aphids	1-2.1 lb/A or 0.65-1.4 oz/ 1,000 ft row (with 22 in. row spacing) (10-15% G)	Soil application at planting. Drill granules 1 to 3 inches below seed line. Granules can be placed in seed furrow if rate does not exceed 1 pound per acre. OR Postemergence soil application. Side-dress granules to 4 to 8 inches to 1 side of plant row and 2 to 6 inches deep. Repeat if needed for continued protection against virus vector.
IRAFAAA IMAAAGA	Leafhoppers Leafminers	2-3 lb/A or 1.3-2 oz/ 1,000 ft row (with 22 in. row spacing) (10-15% G)	

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Sugar Beets (continued)		
IOAXACA	Sugarbeet root maggot	1.5-2.1 lb/A or 1-1.4 oz/ 1,000 ft row (with 22 in. row spacing) (10-15% G)	Soil application at planting (band). Apply in a 2 to 4 inch band over the seed row. Immediately incorporate into at least the top 2 inches of soil after application or cover with soil. Where furrow irrigation is employed for seed germination, drill granules 2 inches deep and 2 inches from seed row on water furrow side.
		1-2.1 lb/A or 0.7-1.4 oz/ 1,000 ft row (with 22 in. row spacing) (10-15% G)	Postemergent soil application. Apply to both sides of plant row and incorporate into the soil or cover with soil immediately.

ALDICARB

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	ORNAMENTALS		
	General Warnings and Limitations: Use limited to trained personnel in commercial production of ornamental plants. Do not use plant parts for food or feed purposes. Do not plant food crops in soil treated with aldicarb for at least 180 days after last application. Do not market potted plants within 28 days after last application. Do not mix aldicarb with potting soil. Do not apply to open blooms as plant injury may occur.		
	(Ornamental Plants (herbaceous, woody shrubs, trees and vines))		
	General Warnings and Limitations: For use on commercial field grown and nursery plantings.		
/35028AA /35028DA	Birch		
/34070AA /34070DA	Holly		
IRACAAA IMAAAGA	Aphids Leafminers	5-10 lb/A or 0.5-0.9 lb/A 1,000 ft row (with 42 in. row spacing) or 0.1-0.2 oz/ 1 in. diameter of trunk at soil level (10% G)	Soil application. Apply after spring growth begins and prior to occurance of leafminer activity. Apply as a side-dress 3 to 4 inches deep and 10 to 12 inches to 1 or both sides of row. Cover with a minimum of 2 inches of soil.
/31084AA /31084DA	Dahlias		
IRACAAA IRAFAAA IMAAAGA ILAVAAA	Aphids Leafhoppers Leafminers Spider mites	5-8 lb/A or 0.4-0.6 lb/ 1,000 ft row (with 42 in. row spacing) (10% G)	Soil application. Apply when pest first appears and repeat if needed. Apply as a side-dress to both sides of plant or row. Incorporate into at least top 2 to 4 inches of soil.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/34120AA /34120DA	Rose		
ILAVAAA	Spider mites	7-10 lb/A or 0.5-0.8 lb/ 1,000 ft row (with 42 in. row spacing) (10% G)	Soil application. Apply when pest first appears and repeat if needed. Apply as a side-dress to both sides of plant or row. Incorporate into at least top 2 to 4 inches of soil.

(Ornamental and Forest Greenhouse Plants)

General Warnings and Limitations: For use on potted plants or plant beds in commercial greenhouses. If beds are covered with leaf or compost type mulch, remove mulch or place granules beneath mulch. Work into soil and water thoroughly. Use the high rate on heavy organic or clay soils or if pest populations become severe. Apply granules evenly around base of plants. Wash off granules adhering to foliage.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/31057CA /34120CA /31184CA	Carnation Rose Snapdragon		
IRACAAA	Aphids	5-7.5 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply after plants are established and pests appear. Repeat in 42 to 56 days, if needed. On old, well-established roses, apply maximum rate for mite control.
ILAVAAA	Spider mites	7.5-10 oz/ 2,500 sq.ft (10% G)	
/31065CA	Chrysanthemum		
IRACAAA IMAAAGA IMOAAAA	Aphids Leafminers Thrips	5-7.5 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply 21 to 35 days after transplanting cuttings or just after pinching. Repeat in 42 to 56 days, if needed.
ILAVAAA IRABAAA	Spider mites Whiteflies	7.5-10 oz/ 2,500 sq.ft (10% G)	
/31093CA	Easter Lily		
IRACAAA	Aphids	5-7.5 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply after plants are established and pests appear. Repeat in 42 to 56 days, if needed.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/31202CA	Gerbera		
IRACAAA IMAAAGA	Aphids Leafminers	5-7.5 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply after plants are established and pests appear. Repeat in 42 to 56 days, if needed.
ILAVAAA IRABAAA	Spider mites Whiteflies	7.5-10 oz/ 2,500 sq.ft (10% G)	
/31147CA	Orchids		
ILAVAAA	Spider mites	7.5-10 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply just prior to emergence of flower spikes. Repeat if needed.
/31159CA	Poinsettia		
IRAWAAA ILAVAAA IRABAAA	Mealybugs Spider mites Whiteflies	7.5-10 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply after plants are established and pests appear. Repeat in 42 to 56 days, if needed.

Listing of Registered Pesticide Products by Formulation

5% granular
aldicarb (098301), pentachloronitrobenzene (056502) plus 5-ethoxy-3-(trichloromethyl)-1,2,4-thiadiazole (084701)
000264-00319

10% granular
aldicarb (098301)
000264-00322 000264-000331

15% granular
aldicarb (098301)
000264-00330

9999999 State Label Registrations

AZ Reg. No.
001016-04683 001016-04684

CA Reg. No.
001016-04677 001016-04682 001016-04686 001016-04687
001016-04688

FL Reg. No.
001016-04678

ID Reg. No.
001016-04680

NY Reg. No.
001016-04679

OR Reg. No.
001016-04681

WY Reg. No.
001016-04685

Index of Currently Acceptable Uses

ALDICARB

Provisional Update Cover Sheet (for Nematicide uses)

The purpose of this "Provisional Update Cover Sheet" is to reflect any additions or modifications to use information and precautionary language subsequent to the development of the original "Index" entry. This update sheet also reflects additional uses covered by special local need (24-c) registrations and multiple active ingredient (MAI) registrations that were not originally covered in the attached single active ingredient (SAI) entry. The reader should note that the scope of this update sheet is limited to changes and additions reflected by the Registration Standard Guidance Document for aldicarb and is not intended to serve as a comprehensive update.

Additional Use Information

Site of Application	Type of Registration	Comments
Bananas	24-C	Nematicide only
Ornamental broadleaf evergreen shrubs (nursery stock and greenhouse soil treatment)	24-C	
Ornamental bulbs (nursery stock and greenhouse soil treatment)	24-C	
Ornamental conifers	24-C	
Ornamental evergreens (broadleaf)	24-C	
Ornamental ferns	24-C	
Ornamental ferns (containerized)	24-C	
Ornamental flowering plants (nursery and bedding plants)	24-C	
Ornamental foliar plants (nursery stock and greenhouse soil treatments)	24-C	
Ornamental herbaceous plants (greenhouse soil and containerized soil treatment)	24-C	
Ornamental trees (deciduous) (nursery stock and greenhouse soil treatment)	24-C	
Ornamental vines	24-C	
Ornamental woody plants	24-C	
Ornamental woody shrubs (nursery stock and greenhouse soil treatments)	24-C	
Ornamental woody vines (nursery stock and greenhouse soil treatment)	24-C	
Roses	24-C	
Strawberries (nursery stock)	24-C	
Tobacco (flue cured) (transplant beds)	24-C	

Index of Currently Acceptable Uses

ALDICARB

Other changes or Modified Precautionary Language

Site	Page	Instruction	Will read as follows:
Formulation heading	1	Add	G (5%, 10%, 15%)
General Warnings & Limitations	1	Add	"RESTRICTED USE PESTICIDE" "Do not apply in Suffock County, Long, Island, NY." "Aldicarb is readily decomposed into harmless residues under most use conditions. However, a combination of sandy and acidic soil conditions moderate to heavy irrigation and/or rainfall, use of 3 or more pounds per acre active ingredient and soil temperatures below 50°F at application time, tend to reduce degradation and promote movement of residues to groundwater. If this describes your local conditions and groundwater in your area is used for drinking, do not use this product without first contacting the company representative." "Do not apply this product in Del Norte County, California." "Do not apply more than 5 lbs. active ingredient in the state of Florida." "Application to citrus fruits in the state of Florida may be made between January 1 and April 30 only."
Livestock Tolerances:	1	Add	.... 0.002 ppm in milk.
General Warnings & Limitations (under Agricultural Crops heading)	1	Add	"Do not plant any crop other than those with registered aldicarb uses in aldicarb treated soil."

Index of Currently Acceptable Uses

ALDICARB

Other changes or Modified Precautionary Language (continued)

Site	Page	Instruction	Will read as follows:
Cotton	2	Add	For dosage column: OR MAI 0.6-0.9 oz/1000 ft of row (equivalent to 0.5-0.75 lb/A using 40 in. row spacing) (5% G) For use pattern column: OR MAI Formulated with 5-Ethoxy-3-(trichloromethyl) 1,2,4-thiodiazole
Potatoes	4	Change to:	90 day preharvest interval through 3.0 pounds per acre at planting application
Potatoes	4	Add	"Do not apply in Suffock County, Long, Island, NY. In the following areas apply at emergence only. The states of Maine and Wisconsin, and counties of: Harford, CT; Kent and New Castle, DE; Franklin and Hampshire, MA; Worchester, MD; Atlantic, Burlington, Cumberland, Monmouth and Salem, NJ; Newport and Washington, RI; Accomack and Northampton, VA." In all other states, at planting.
Potatoes	4	Delete	Delete the pest "golden nematode" and all use paragraphs under that pest.
Formulation page	14	replace	Use page II-II-098301-D to replace original page 14.

ALDICARB

Listing of Registered Pesticide Products by Formulation

5% granular
aldicarb (098301), pentachloronitrobenzene (056502) plus 5-ethoxy-3-(trichloromethyl)-1,2,4-thiadiazole (084701)
000264-00319

10% granular
aldicarb (098301)
000264-00322 000264-00331

15% granular
aldicarb (098301)
000264-00330

State label Registrations:

AZ Reg. No.
001016-04683 001016-04684

CA Reg. No.
001016-04677 001016-04682 001016-04686 001016-04687
001016-04688

FL Reg. No.
001016-04678

ID Reg. No.
001016-04680

NY Reg. No.
001016-04679

OR Reg. No.
001016-04681

WY Reg. No.
001016-04685

c098301

ALDICARB*

TYPE PESTICIDE: Insecticide, Acaricide (also refer to Nematicide entry)

FORMULATIONS: G (5%, 10%, 15%)

GENERAL WARNINGS AND LIMITATIONS: RESTRICTED USE PESTICIDE
Do not apply in Suffolk County, Long Island, NY or in Del Norte County, CA. Do not apply more than 5 pounds per acre in FL.

Aldicarb is usually decomposed into harmless residues. However, a combination of sandy and acidic soil condition, moderate to heavy irrigation and/or rainfall, use of 3 or more pounds per acre, and soil temperature below 50 F (10.0 C) at the time of application, tend to reduce degradation and promote movement of residues to groundwater. If this describes your local use conditions and groundwater in your area is used for drinking, do not use this product without first contacting the company.

The use of aldicarb may pose a hazard to the Federally designated endangered/threatened species known to be found in certain areas within named locations.

Attwater's Greater Prairie Chicken - TX counties including Aransas, Austin, Brazoria, Colorado, Galveston, Goliad, Harris, Refugio, and Victoria.

Aldicarb may not be used in areas where adverse impact on the Federally designated endangered/threatened species noted above is likely. Prior to making applications, the user of aldicarb must determine that no such species are located in or immediately adjacent to the area to be treated. If the user is in doubt whether or not the above endangered species may be affected, he should contact either the regional U.S. Fish and Wildlife Service Office (Endangered Species Specialist) or personnel of the State Fish and Game Office.

Agricultural Crop Tolerances:
Bananas - 0.3 ppm
Coffee Beans - 0.1 ppm
Sugarcane - 0.02 ppm
Sugarcane (forage and fodder) - 0.1 ppm
Sweet Potatoes - 0.1 ppm

Livestock Tolerances:
Cattle (fat, meat, meat byproducts) - 0.01 ppm
Goats (fat, meat, meat byproducts) - 0.01 ppm
Hogs (fat, meat, meat byproducts) - 0.01 ppm
Horses (fat, meat, meat byproducts) - 0.01 ppm
Milk - 0.002 ppm
Sheep (fat, meat, meat byproducts) - 0.01 ppm

Definition of Terms:
Claims for pest control limited to suppression of populations are indicated by parenthesized pest name.

*Temik
2-methyl-2-(methylthio)propionaldehyde O-(methylcarbamoyl)oxime

AGRICULTURAL CROPS

General Warnings and Limitations: Do not plant any crop other than those registered aldicarb uses in aldicarb treated soil. Do not allow livestock to graze treated areas before harvest. Do not store or use in or around the home or home garden. Aldicarb is not effective if used with alkaline materials such as lime. Use high rate on heavy organic or clay soils. Applications in excess of 0.75 pound (actual) per acre of 5 per cent granular formulation or 1 pound (actual) per acre of 10 to 15 per cent granular formulations made directly to seed furrow of beans (dried-type), cotton, soybeans, and sugar beets may delay emergence and reduce plant stand. Make side-dress applications close enough to plants to allow good uptake by roots without injury to the plants from root pruning. In irrigated areas, follow application with irrigation within 7 days. If alternate furrows are irrigated after side-dress application, the aldicarb and water must be on the same side of the plant row. To provide maximum performance and minimize hazards to birds, incorporate granules into or cover with soil to a depth of 2 inches or more. Deep disc any spills at row ends.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/15001AA	Beans, Dried-type		0.1 ppm 90 day preharvest interval through 2.3 ounces per 1,000 feet of row for soil application. Do not make more than 1 application per crop. Do not harvest green pods for human consumption. Do not feed green forage, hay, or straw to livestock.
IRACAAA	Aphids	0.8-1.1 oz/ 1,000 ft row (with 30-48 in. row spacing) (10-15% G)	Soil application at planting. Drill granules 2 to 3 inches below seed line or 2 to 3 inches to side of seed row and 2 to 3 inches deep. Granules may be placed in seed furrow if rate does not exceed 0.75 pound active ingredient per acre.
IRAFAAA INAPAFA ILAAABA	Leafhoppers Mexican bean beetle Mites	1.1-2.3 oz/ 1,000 ft row (with 30-48 in. row spacing) (10-15% G)	

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Beans, Dried-type (continued)		
IOACAAA	Seedcorn maggot	0.5-0.75 lb/A or 0.6-0.8 oz/ 1,000 ft row (with 36 in. row spacing) (15% G)	Use limited to NY. Soil application at planting. Apply granules in seed furrow and cover with soil.
/28007AA	Cotton		0.1 ppm (cottonseed) 0.3 ppm (cottonseed hulls) 90 day preharvest interval through 3 pounds per acre (with 40 inch row spacing) for soil application. Do not make more than 1 at planting application and 1 postemergence application per crop.
IRACAAA IMOAAAA	Aphids Thrips	0.3-0.5 lb/A or 0.4-0.7 oz/ 1,000 ft row (with 40 in. row spacing) (5-15% G)	Soil application at planting. Drill granules just below seed line or place in seed furrow and cover with soil. For hill-dropped seed, reduce dosage by one-half. May be formulated with pentachloronitrobenzene and 5-ethoxy-3-(trichloromethyl)-1,2,4-thiadiazole.
INASAHJ IQAMBDA IMAAAGA ILAAABA IQAMAAA	Boll weevil (overwintering adults) Fleahoppers Leafminers Mites Plant bugs (including lygus bugs)	0.6-1 lb/A or 0.8-1.3 oz/ 1,000 ft row (with 40 in. row spacing) (5-15% G)	
IQAMBDA IRAFAAA	Fleahoppers Leafhoppers	1-2 lb/A or 1.2-2.6 oz/ 1,000 ft row (with 40 in. row spacing) (10-15% G)	Soil application at first squaring. Side-dress granules 8 to 16 inches to 1 side of the plant row and 2 to 6 inches deep, usually at or below bottom of water furrow.
INASAAA ILAAABA IQAMAAA	Boll weevil Mites Plant bugs (including lygus bugs)	2-3 lb/A or 2.4-3.7 oz/ 1,000 ft row (with 40 in. row spacing) (10-15% G)	

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Cotton (continued)		
ITAYAHA	Cotton leaf-perforator	2-2.1 lb/A or 2.4-2.6 oz/ 1,000 ft row (with 40 in. row spacing) (10-15% G)	Soil application from squaring through early bloom. Side-dress granules 8 to 16 inches to 1 side of the plant row and 2 to 6 inches deep, usually at or below bottom of water furrow.
IRABAAA	Whiteflies	2-3 lb/A or 2.4-3.7 oz/ 1,000 ft row (with 40 in. row spacing) (10-15% G)	
/02002AA /02004AA /02005AA	Grapefruit Lemon Lime		0.3 ppm 0.6 ppm (citrus pulp, dried) 30 day preharvest interval through 10 pounds per acre for soil application for lemon. Do not make more than 1 application per year. Applications in FL may be made between January 1 and April 30 only.
IRACAAA ILAVARA ILAJBCA ILAVAKA	Aphids Citrus red mite Citrus rust mite Texas citrus mite	5-10 lb/A (with 18-25 ft row spacing) (15% G)	Soil application. Apply just prior to or during spring flush of foliage growth. Apply in a band along drip-line on both sides of tree row by spreading granules uniformly and immediately working into soil (preferred method) or shank 2 to 3 inches deep using 4 to 6 shanks on 12 inch centers. Band width should equal one fourth tree row spacing. Thoroughly irrigate immediately after application. May also be applied in irrigation furrows using 2 shanks per furrow.

ALDICARB

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/02006AA	Orange		0.3 ppm 0.6 ppm (citrus pulp, dried) Soil application through 10 pounds per acre. Do not make more than 1 application per year. Applications in FL may be made between January 1 and April 30 only.
IRACAAA ILAVARA ILAJBCA	Aphids Citrus red mite Citrus rust mite	5-10 lb/A (with 18-25 ft row spacing) (10-15% G)	Soil application. Apply just prior to or during spring flush of foliage growth. Apply in a band along dripline on both sides of tree row by spreading granules uniformly and immediately working into soil (preferred method) or shank 2 to 3 inches deep using 4 to 6 shanks on 12 inch centers. Band width should equal one fourth tree row spacing. Thoroughly irrigate immediately after application. May also be applied in irrigation furrows using 2 shanks per furrow.
/27007AA /15006AA	Peanuts		0.05 ppm (peanuts) 0.5 ppm (peanut hulls) 90 day preharvest interval through 2.1 pounds per acre (with 36 inch row spacing) for soil application. Do not make more than 1 application per crop. Do not feed or allow livestock to graze on treated hay or vines.
IMOAAAA	Thrips	1-2.1 lb/A or 1.1-2.3 oz/ 1,000 ft row (with 36 in. row spacing) (10-15% G)	Soil application at planting. Apply granules in seed furrow and cover with soil. In the Southwest, apply high rate only.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/03008AA	Pecan		0.5 ppm Soil application through 10 pounds per acre. Do not make more than 1 application per year. Do not harvest foliage or hay from treated areas.
IRACAAA	Aphids	5-10 lb/A (10-15% G)	Use limited to Southeastern United States. Soil application (band). Apply during period from bud break to nut set (approximately April 15 to May 15). For pecan leaf phylloxera, apply 7 to 14 days before bud break. Apply as a 4 to 6 foot band along dripline on both sides of tree row by spreading granules uniformly and immediately working into soil or by shanking 2 to 3 inches into soil on 12 inch centers.
ILAAABA	Mites		
IRAVAIA	(Pecan leaf phylloxera)		
/03008DA	Pecan (nonbearing transplants 1 to 5 years old)		0.5 ppm
IRACAAA	Aphids	0.8-3.2 oz/ tree (10-15% G)	Use limited to Southeastern United States. Soil application. Apply during period of bud break (approximately April 15 to May 15). For pecan bud moth and pecan leaf phylloxera, apply 7 to 14 days before bud break. Apply as a side-dress to individual trees row by spreading granules uniformly around the tree and. immediately working into soil to a depth of 2 to 3 inches.
ILAAABA	Mites		
ITBGATA	Pecan bud moth		
IRAVAIA	(Pecan leaf phylloxera)		

ALDICARB

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/14013AA	Potato		1 ppm 90 day preharvest interval through 3 pounds per acre (with 34 inch row spacing) for soil application at planting. 50 day preharvest interval through 3 pounds per acre (with 34 inch row spacing) for postemergence soil application. Do not make more than 1 application per crop.
IRACAAA	Aphids	1 lb/A or 1.05 oz/1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to ME. Postemergent soil application. Apply granules in 4 to 6 inch band over row on the top of hill at emergence. Do not apply more than once every 2 years.
IRACAAA INAMCEA IRAFAAA	Aphids Colorado potato beetle Leafhoppers	2-3 lb/A or 2.1-3.1 oz/ 1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to areas other the states and counties listed in paragraph below. Soil application at planting. Apply granules with seed pieces in planting furrow and cover with soil of drill granules 2 to 4 inches on both sides of seed row and 3 to 8 inches deep, usually 1 to 2 inches below seed pieces.
		2-2.1 lb/A or 2.1-2.2 oz/ 1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to ME and WI and the counties of: Hartford CT Kent and New Castle DE Franklin and Hampshire MA Worchester MD Atlantic, Burlington, Cumberland, Monmouth and Salem NJ Newport and Washington RI Accomack and Northampton VA. Postemergent soil application. Apply granules in 4 to 6 inch band over row on top of hill at emergence. Cover granules with soil by cultivators or hilling discs. Do not apply more than once every 2 years.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Potato (continued)		
IRACAAA INAMCEA	Aphids Colorado potato beetle	2-3 lb/A or 2.1-3.2 oz/ 1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to areas other than the states and counties listed in above paragraph. Postemergent soil application. Apply at 75 percent emergence or before plants are 6 inches high up to 42 days after emergence. Side-dress granules 4 to 5 inches on both sides of plant row and 4 inches deep. Apply where pest populations are expected 14 to 21 days after plant emergence. Do not apply if an at planting application was made.
INAMADA	Flea beetles	3 lb/A or 3.1 oz/1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to areas other than the states and counties listed above. Soil application at planting. Apply granules with seed pieces in planting furrow and cover with soil.
IRAXAAA	Psyllids	2-2.1 lb/A or 2.1-2.2 oz/ 1,000 ft row (with 34 in. row spacing) (10-15% G)	Use limited to AZ. Soil application at planting. Apply granules with seed pieces in planting furrow and cover with soil or drill granules 2 to 4 inches on both sides of seed row and 3 to 8 inches deep, usually 1 to 2 inches below seed pieces.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28019AA	Sorghum		0.5 ppm (fodder, bran) 0.2 ppm (grain) 90 day preharvest interval through 1 pound per acre (with 36 inch row spacing) for soil application. The use of aldicarb may pose a hazard to the following Federally designated endangered/threatened species known to be found in certain areas within named locations. Attwater's Greater Prairie Chicken - TX counties including Aransas, Austin, Brazoria, Colorado, Galveston, Goliad, Harris, Refugio, and Victoria. Aldicarb may not be used in areas where adverse impact on the Federally designated endangered/threatened species noted above is likely. Prior to making applications, the user of aldicarb must determine that no such species are located in or immediately adjacent to the area to be treated. If the user is in doubt whether or not the above endangered species may be affected, he should contact either the regional U.S. Fish and Wildlife Service Office (Endangered Species Specialist) or personnel of the State Fish and Game Office. Do not make more than 1 application per year. Do not feed green forage to livestock.
IQALAEA IRACDNA	(Chinch bug) (Greenbug)	1 lb/A or 1.1 oz/1,000 ft row (with 36 in. row spacing) (10-15% G)	Soil application at planting. Apply in seed furrow and cover with soil.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28023AA	Soybeans		0.02 ppm 90 day preharvest interval through 1.7 oz per 1,000 feet of row for soil application. Do not make more than 1 application per crop. Do not feed green forage, hay, or straw to livestock.
INAPAFA	Mexican bean beetle	0.8-1.65 oz/ 1,000 ft row (with 30-48 in. row spacing) (10-15% G)	Soil application at planting. Drill granules 2 to 3 inches below seed line or 2 to 3 inches to side of seed row and 2 to 3 inches deep.
/01016DA	Strawberry (nursery stock)		N.F. This use only occurs on Special Local Need (24-C) labeling and has not been included in this entry. Refer to appropriate labeling for use information and limitations.
/28020AA	Sugar Beets		0.05 ppm (roots) 1 ppm (tops) 90 day preharvest interval through 3 pounds per acre (with 22 inch row spacing) for soil application. 120 day preharvest interval through 3 pounds per acre for soil application if tops are to be fed to livestock. Do not harvest tops for human consumption. Do not exceed a total of 6 pounds per acre, including an at planting application. Do not make more than 1 at planting application and 2 postemergence applications per crop. Do not make any postemergence applications if a preemergence application of 4 to 5 pounds per acre for nematode control is made.
IRACAAA	Aphids	1-2.1 lb/A or 0.65-1.4 oz/ 1,000 ft row (with 22 in. row spacing) (10-15% G)	Soil application at planting. Drill granules 1 to 3 inches below seed line. Granules can be placed in seed furrow if rate does not exceed 1 pound per acre. OR

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Sugar Beets (continued)		
IRAFAAA IMAAAGA	Leafhoppers Leafminers	2-3 lb/A or 1.3-2 oz/ 1,000 ft row (with 22 in. row spacing) (10-15% G)	Postemergence soil application. Side-dress granules to 4 to 8 inches to 1 side of plant row and 2 to 6 inches deep. Repeat if needed for continued protection against virus vector.
IOAXACA	Sugarbeet root maggot	1.5-2.1 lb/A or 1-1.4 oz/ 1,000 ft row (with 22 in. row spacing) (10-15% G)	Soil application at planting (band). Apply in a 2 to 4 inch band over the seed row. Immediately incorporate into at least the top 2 inches of soil after application or cover with soil. Where furrow irrigation is employed for seed germination, drill granules 2 inches deep and 2 inches from seed row on water furrow side.
		1-2.1 lb/A or 0.7-1.4 oz/ 1,000 ft row (with 22 in. row spacing) (10-15% G)	Postemergent soil application. Apply to both sides of plant row and incorporate into the soil or cover with soil immediately.
/260060A	Tobacco (flue cured)(transplantbed)		N.F. This use only occurs on Special Local Need (24-C) labeling and has not been included in this entry. Refer to appropriate labeling for use information and limitations.

ORNAMENTALS

General Warnings and Limitations: Use limited to trained personnel in commercial production of ornamental plants. Do not use plant parts for food or feed purposes. Do not plant food crops in soil treated with aldicarb for at least 180 days after last application. Do not market potted plants within 28 days after last application. Do not mix aldicarb with potting soil. Do not apply to open blooms as plant injury may occur.

(Ornamental Plants (herbaceous, woody shrubs, trees and vines))

General Warnings and Limitations: For use on commercial field grown and nursery plantings.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/35028AA /35028DA	Birch		
/34070AA /34070DA	Holly		
IRACAAA IMAAAGA	Aphids Leafminers	5-10 lb/A or 0.5-0.9 lb/A 1,000 ft row (with 42 in. row spacing) or 0.1-0.2 oz/ 1 in. diameter of trunk at soil level (10% G)	Soil application. Apply after spring growth begins and prior to occurance of leafminer activity. Apply as a side-dress 3 to 4 inches deep and 10 to 12 inches to 1 or both sides of row. Cover with a minimum of 2 inches of soil.
/31084AA /31084DA	Dahlias		
IRACAAA IRAFAAA IMAAAGA ILAVAAA	Aphids Leafhoppers Leafminers Spider mites	5-8 lb/A or 0.4-0.6 lb/ 1,000 ft row (with 42 in. row spacing) (10% G)	Soil application. Apply when pest first appears and repeat if needed. Apply as a side-dress to both sides of plant or row. Incorporate into at least top 2 to 4 inches of soil.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/34120AA /34120DA	Rose		
ILAVAAA	Spider mites	7-10 lb/A or 0.5-0.8 lb/ 1,000 ft row (with 42 in. row spacing) (10% G)	Soil application. Apply when pest first appears and repeat if needed. Apply as a side-dress to both sides of plant or row. Incorporate into at least top 2 to 4 inches of soil.

(Ornamental and Forest Greenhouse Plants)

General Warnings and Limitations: For use on potted plants or plant beds in commercial greenhouses. If beds are covered with leaf or compost type mulch, remove mulch or place granules beneath mulch. Work into soil and water thoroughly. Use the high rate on heavy organic or clay soils or if pest populations become severe. Apply granules evenly around base of plants. Wash off granules adhering to foliage.

/31057CA /34120CA /31184CA	Carnation Rose Snapdragon		
IRACAAA	Aphids	5-7.5 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply after plants are established and pests appear. Repeat in 42 to 56 days, if needed.
ILAVAAA	Spider mites	7.5-10 oz/ 2,500 sq.ft (10% G)	On old, well-established roses, apply maximum rate for mite control.
/31065CA	Chrysanthemum		
IRACAAA IMAAAGA IMOAAAA	Aphids Leafminers Thrips	5-7.5 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply 21 to 35 days after transplanting cuttings or just after pinching. Repeat in 42 to 56 days, if needed.
ILAVAAA IRABAAA	Spider mites Whiteflies	7.5-10 oz/ 2,500 sq.ft (10% G)	
/31093CA	Easter Lily		
IRACAAA	Aphids	5-7.5 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply after plants are established and pests appear. Repeat in 42 to 56 days, if needed.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/31202CA	Gerbera		
IRACAAA IMAAAGA	Aphids Leafminers	5-7.5 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply after plants are established and pests appear. Repeat in 42 to 56 days, if needed.
ILAVAAA IRABAAA	Spider mites Whiteflies	7.5-10 oz/ 2,500 sq.ft (10% G)	
/31147CA	Orchids		
ILAVAAA	Spider mites	7.5-10 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply just prior to emergence of flower spikes. Repeat if needed.
/31159CA	Poinsettia		
IRAWAAA ILAVAAA IRABAAA	Mealybugs Spider mites Whiteflies	7.5-10 oz/ 2,500 sq.ft (10% G)	Soil application to greenhouse grown plants. Apply after plants are established and pests appear. Repeat in 42 to 56 days, if needed.

ALDICARB

Listing of Registered Pesticide Products by Formulation

5% granular
aldicarb (098301), pentachloronitrobenzene (056502) plus 5-ethoxy-3-(trichloromethyl)-1,2,4-thiadiazole (084701)
000264-00319

10% granular
aldicarb (098301)
000264-00322 000264-000331

15% granular
aldicarb (098301)
000264-00330

9999999 State Label Registrations

AZ Reg. No.
001016-04683 001016-04684

CA Reg. No.
001016-04677 001016-04682 001016-04686 001016-04687
001016-04688

FL Reg. No.
001016-04678

ID Reg. No.
001016-04680

NY Reg. No.
001016-04679

OR Reg. No.
001016-04681

WY Reg. No.
001016-04685